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Original Articles.

THE DIAGNOSIS AND TREATMENT OF THE PREBACILLARY STAGE OF PULMONARY TUBERCULOSIS.*

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By the title of this article is meant that variable period in pulmonary tuberculosis which precedes the presence of tubercle bacilli in the sputum. It is not synonymous with the term "pretubercular stage," which has reference either to an inherited or acquired predisposition merely, or to a latent tuberculous process. The prebacillary stage, as here defined, is oftimes of long duration. Concerning the stage of enclosure Allbutt[1] observes that an examination of the sputum can not help us decisively in tuberculous endobronchitis. In my own experience the bacilli were sometimes not found in the sputum for months, or even a year, after the apparent onset. Turban[2] examined the sputum in the first stage in 408 cases and failed to find tubercle bacilli in 59.8 per cent.

It may be safely affirmed, then, that an antecedent well-characterized clinical stage is often observed. Eichhorst[3] forcibly remarks, "Certainly one finds off and on undoubted cases of pulmonary tuberculosis in which tubercle bacilli are missed, a daily examination of the sputum notwithstanding." It must be conceded that unless other methods of diagnosticating pulmonary tuberculosis than the demonstration of tubercle bacilli in the sputum be resorted to, not a small minority of cases would go unrecognized, some for months, or even a year, and some forever.

While emphasizing this class of cases, it is not my desire to attempt to shake professional trust in the sputum-test, which in the majority of cases, perhaps, enables clinicians to form a positive diagnosis at an early stage of the disease and in cases not otherwise solvable, but on the other hand, to urge that it be repeated at short intervals in clinically suspicious cases. Percy Kidd[4] has indicated certain clinical groups of cases in which the true nature of the complaint may be masked by a generalized bronchitis, or laryngitis and the like, in which a sputum examination yields the earliest positive information.

I am relieved of the necessity of dwelling at length on many of the more remote early manifestations of the disease by reason of the elaborate and accurate descriptive writings of Ruehle,[5] Sée,[6] and others. Brief attention, however, will be invited to the practical points bearing on diagnosis that have been emphasized by some of the older writers and the value of which personal observation and experience has tended to corroborate and strengthen.

Heredity.—The influence of heredity is still incontrovertible, although less potential than was held previous to Koch's startling and revolutionizing discovery. Whilst the progeny of tuberculous parents often suffer, it is, as a rule, owing to an extrauterine or post-fetal infection, direct transmission being the exception. G. Hauser,[7] after reviewing at length the work of previous writers on direct inheritance, reaches the conclusion that there are but 18 authentic instances on record. He declares that the theory of the bacillary inheritance of tuberculosis rests on insufficient evidence. But, though intrauterine infection is extremely rare, and though there is practically no hereditary tuberculosis, there is a hereditary predisposition which invites infection. Hence, a somewhat different rôle, although one of considerable importance, is assigned to heredity. We are not concerned at present writing with the many evident methods of infection that may be operative from the time of birth and cause so striking a similarity between post-natal and ante-natal tuberculosis. This fact, however, coupled with the long period of latency of tuberculosis in childhood, must be recollected in deciding from the appearance of an individual, first, whether he has the habitus phthisicus, and secondly, whether it is really inherited. For example, as the result of an unfavorable environment, particularly if combined with bad habits, this predisposition may be acquired. E. O. Otis[8] pertinently affirms that heredity means poor vitality from birth and that subjects who manifest the same conditions without the influence of heredity are predisposed to a like extent. I have, however, frequently been able to satisfy myself that individuals possessing a robust build are, if they belong to affected families, more prone to the disease than apparently similar constitutions in persons who have no tuberculous family history. Indeed, I fear that in consequence of the modification of professional opinion in recent times relative to the question of heredity there is danger that too little attention is now, and will be in future, given to the family history.

The point of greatest practical importance is that the immigration and lodgment of bacilli are distinctly favored in a predisposed organism as compared with one that is perfectly normal; hence, this hereditary influence, when clearly present, is not only of etiologic but also of diagnostic importance. Allbutt[1] says: "Every physician engaged in practice among the classes in which family history can be acquired is morally convinced of the bias of many families to tuberculosis, however healthy their circumstances may appear; a bias often revealed in each of their members on the attainment of a certain age."

The personal history, however, surpasses in point of import the family history. The age of the patient is

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worthy of consideration, and the fact that the disease is not uncommon in middle or even advanced life must be recollected. Since the increased prevalence of influenza, dating from the winter of 1889-90, senile phthisis has become more common than it had been previously. The occupation, station, loss of weight and various details connected with the previous environment must be carefully noted and judiciously weighed. Knopf[9] has very properly emphasized the importance of determining whether the patient ever came into direct, prolonged contact with a consumptive or a patient suffering from bronchial pulmonary disease.

Physical Examination.—The paralytic thorax is generally in evidence during the initial stage of pulmonary tuberculosis and should be looked on as the resultant of an incipient tuberculous process in the majority of cases rather than an antecedent condition. It must not, however, be confounded with an extreme emaciation nor the deformity which simulates it, due to occupation, as habitually leaning over a desk, and the like. Conversely, the flattened chest, with its short antero-posterior diameter (paralytic thorax), may be concealed in subjects of obesity during the incipient stage. I am in thorough agreement with Loomis[10] that the data obtained by measuring the circumference of the chest are more important than its shape. This thoracic perimeter, which represents two measurements, one at the end of forced expiration and the other of forced inspiration, should never fall below one-half the height of the individual. It has been shown that when the thoracic perimeter is lower than this, early phthisis exists, although this may assume a latent form. In connection with the phthisical thorax and chest measurements, the vital capacity as determined by the spirometer, is of confirmatory value in diagnosis, particularly when considered in relation to the height. This method is fully described by Loomis,[10] to whose article I must refer the Section for detailed information.

Preceding the finding of bacilli in the expectoration, obvious physical signs, variable in character, are quite commonly met with, and may endure for weeks, or even months, ere the diagnosis is set at absolute rest by the stage of the microscope. These abnormities are first detected in the subapical regions, and in my cases they have occurred posteriorly in, perhaps, the majority of instances. Turban wisely remarks that "The scapula must be abducted by drawing the arm across the chest, so as to give access to the cage of the chest between its edge and the spine." He also states that light and single percussion must be used. I have for years given preference to single as compared with multiple blows in early cases in which it was desired to outline minute consolidated areas. I have also frequently convinced myself of the practical importance of percussing every inch of ground when a search for the primary lesions in the usual situation (subapical area) gives a negative result. Among the earliest and perhaps the most significant signs is the diminution or almost total loss of the normal vesicular murmur. To test the strength or weakness of the vesicular quality of the murmur, the corresponding regions on the two sides must be invariably compared, both during quiet and deep breathing. Coupled with or following on enfeeblement of the normal vesicular murmur, prolongation and sharpening of the expiration are generally noted. The tactile fremitus may also be increased, but this is often absent on account of associated pleurisy. I regard defective expansion at or a little below one apex as profoundly significant, particularly if observed in the infraclavicular spaces, and in some of my cases "lagging" was the first and for a considerable period of time the only recognizable physical sign. It is best appreciated by palpation. The most characteristic grouping of physical signs during the first stage—sometimes in evidence prior to the discovery of tubercle bacilli—may be thus summarized: "Lagging," or defective expansion, as noted in inspection and palpation, a localized increase in the tactile fremitus, enfeeblement of the normal vesicular murmur with (at a later period) prolongation and sharpening of the expiration. To the signs mentioned above should be added a clicking râle, which, though less commonly present, is an almost conclusive indication.

The percussion note may be impaired or deadened, but this sign is quite unreliable in the earliest period, becoming more trustworthy, however, as consolidation progresses. A pleuritic friction sound may be rarely heard in the apical area; it is usually dependent on the tuberculous process. Later crepitant and subcrepitant râles (moist sounds) are heard, and greatly increase the probability that tuberculous infiltration has taken place. Among other suggestive, invasive symptoms and conditions are:

1. Pleurisy. This may take the form of serofibrinous pleurisy, inasmuch as about one-third of these cases terminate in chronic phthisis—Bowditch. It may also assume the guise of a dry pleurisy at the apex, either anteriorly or posteriorly.

2. Gastrointestinal symptoms, with chloro-anemia. The digestion is impaired; there is a rapid loss of flesh and strength, and an afternoon rise of temperature, with pronounced anemia. This grouping of features (chloro-anemia) is often followed by the appearance of the earlier positive indications of pulmonary tuberculosis.

3. Hemoptysis. This may be the first symptom to excite suspicion of lung disease. In many of these cases a typical picture of incipient pulmonary tuberculosis is found on examination, and they may pursue the usual course, showing that a slight tuberculous lesion was an antecedent condition. I would here throw out the caution that all other causes for the spitting of blood should be carefully excluded, unless the evidences of commencing phthisis are conclusive at the time of the occurrence of the primary hemorrhage.

4. Onset with symptoms of laryngitis. Although rare there are cases occasionally met, characterized by hoarseness, aphonia and troublesome cough, with a slight mucopurulent expectoration. The bacilli may be found in the sputum before any lesions of the lungs are discoverable. C. N. Haskell[11] regards headaches and indigestion as two of the most important remote symptoms of consumption. Two cases were recently met in my own experience that tend to strengthen the view expressed by this observer.

The clinical evidences of commencing phthisis mentioned above justify a probable diagnosis; they are diagnostic aids, and if two or more are found in combination, as is usual, should be regarded as presenting the therapeutic indications of this affection. It has been argued that the physical signs furnish the basis of an assured diagnosis. While it must be conceded that the physical signs enable a keen observer to recognize with reasonable certainty the existence of phthisis—at times before all doubt is removed by the stage of the microscope—it is even more true that once these signs disclose the presence of pulmonary tuberculosis, the dis-

case has passed beyond the incipient stage as this term is understood at present writing.

The presence of a slight afternoon rise of temperature, if associated with either local or general disturbance, should arouse strong suspicion, since it would be difficult to overestimate the diagnostic importance of this symptom.

A two-hourly thermometric record must be kept during the entire day, for several days together, or the rise of temperature may elude detection. Barlow states that if the temperature is elevated from 2 to 5 degrees p.m., or one slightly above the normal night temperature in the evening, the probabilities are greatly in favor of tuberculosis. Trudeau[12] points out that when any disturbance of health exists, and the evening temperature runs above 99.5 F., there is almost surely tuberculosis present. Turban[2], among recent writers, also believes frequent thermometric estimations of the temperature to be extremely helpful. He urges to test the temperature after exertion, taking between 4 and 6 o'clock in the afternoon, if doubt remains as to the presence of fever. Louis long since asserted that fever starts in a third of the cases with the first local symptoms, and even before then; in another fifth of the cases it is manifested in the course of the first period. Sydney Ringer[13] points out that the exacerbation of fever coincides with the evening elevation which takes place normally, and that it is now characterized by an acceleration of the pulse, which makes the fever appear more intense than it is in reality.

Sée[6] observes that the application of the thermometer permits us to distinguish this state from chlorosis, "which but rarely provokes a like excitement of the heart and never hyperthermia." Fever may be present for a long period of time before the sputum-test gives a positive result. On the other hand, as Makenzie[15] asserts, in cases with a fair number of bacilli in the expectoration, the temperature may be for weeks perfectly normal. It is a matter of congratulation that from the standpoint of temperature a reasonably certain diagnosis is easily possible and also that the profession is not divided at present in regard to this question. Here may be pointed out, what is well understood, that an intermittent fever simulating that of malaria is not rarely seen in tuberculosis at its commencement. It is distinguished from malarial fever only by a careful blood examination, which shows the absence of the plasmodium. Even an elevation of temperature due to other causes, such as anemia, suppuration and the like, is also easily eliminated by a blood examination.

A quickened pulse is often present at the outset, preceding the appearance of bacilli in the sputum by weeks and even months, and it is suggestive, although less so than the brief afternoon febrile movement. On the other hand, certain observers claim that the pulse in early phthisis is characteristic. According to my observations, the heart-beat is not constantly accelerated at this period. I have, however, observed that a rapid, feeble pulse is one of the almost unvarying features of early phthisis in the very young. When at this period of life the pulse has been found rapid and feeble, it has served in my experience to corroborate strongly the diagnosis. Knopf states that taking the "arterial pressure with the aid of Potain's sphygmomanometer is a most valuable help in diagnosing an early pulmonary tuberculosis." The instrument enables one to easily determine the arterial pressure of the patient; this is usually diminished, as shown by Papillon's recent examination in Potain's service at the Charité in Paris.

E. F. Wells[15] has found the arterial tension to be early and notably reduced, especially during the febrile exacerbations; he has met with no exceptions to this rule. This writer holds that "sphygmographic tracings give most valuable aid in the diagnosis of early pulmonary tuberculosis, and from these alone the scale may be turned in the great majority of doubtful cases." He illustrates with tracings which show a pulse of lower tension and infantile character. From this "typical curve there are infinite variations in both directions, approaching the normal on the one hand and reaching the most pronounced dicrotism on the other." It is precisely on account of the extreme variability of the arterial tension that I can assign merely a high confirmatory value to the pulse. On the other hand, R. Grandin[16] claims that the arterial pressure varies, being sometimes increased, sometimes decreased. I have been able to verify DaCosta's original observation, that a murmur is sometimes audible over the subclavian or pulmonary artery before either physical signs referable to the lungs are detectable or fever occurs. In three of my cases, abnormal conduction of the cardiac sounds preceded the detection of the usual earliest signs of commencing consolidation—two in left-sided and one in right-sided pulmonary tuberculosis. In all of them tubercle bacilli were subsequently found in the expectoration, and since all were observed within the last year, this sign may on receiving greater attention prove to be more profoundly significant as a diagnostic factor than when, as is usual, it occurs at a later period. In one of my cases this was the only clinical indication that aroused suspicion that the disease might be developing, apart from slight, dry cough that had lasted a couple of weeks.

The Tuberculin Test.—This enables the physician to clear the nature of latent forms and dubious cases, however incipient; its value depends principally on the fact that it permits of the recognition of the disease before its presence can be otherwise determined. As showing the value of the tuberculin test for the early diagnosis of pulmonary tuberculosis, I will in the first place cite three cases that were recently met in my practice and reported elsewhere.[17] The first occurred in a lad aged 14, who had always been in delicate health. The illness for which he consulted me had commenced four weeks previously with symptoms that were distinctly typhoidal in character, and later a positive Widal reaction was obtained. A physical examination at my first visit revealed only a phthisical thorax. After the fever had declined an injection of tuberculin (2 mg.) gave a positive reaction. An X-ray photograph was then taken, and showed slight, though decisive, haziness.

The second case was one of suspected acute tuberculosis. The diagnosis was confirmed by the tuberculin test. The necropsy was held six weeks later by Dr. MacFarland, who found miliary tuberculosis following Pott's disease, with beginning psoas abscess. He found, it is interesting to note, "each tubercle surrounded by a zone of hyperemic vessels, which gave it a dark bluish-purple color," and observed also that its center was softened and depressed.

My third case occurred in J. H., aged 19 years, occupation, laborer; he was admitted to the wards of the Medico-Chirurgical Hospital, Jan. 2, 1900. There was no history of family tuberculous taint, and the patient had enjoyed good health until February, 1899, when he took a severe cold, following upon which he continued to cough until the onset of the illness for which he applied. On December 30, while stooping to lift a heavy

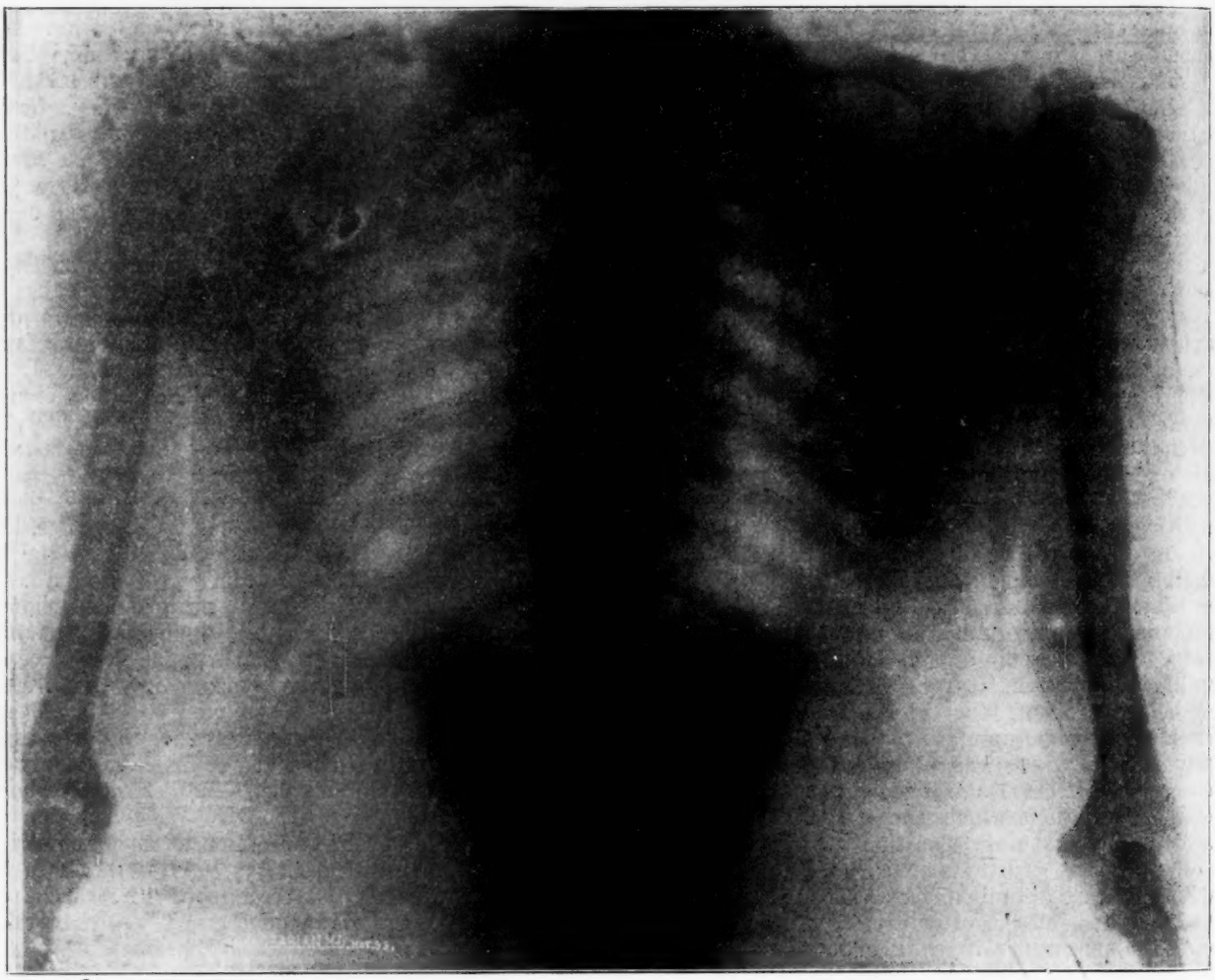
weight, he suddenly experienced a warm saline taste, which suddenly led to cough, accompanied by the expectoration of a small amount of bright red, frothy blood. Physical examination showed nothing save a few subcrepitant râles in left scapular region. Both fluoroscopic examination of the thorax and repeated microscopic examination of the sputum gave a negative result. On the other hand, an injection of tuberculin (1 mg.) responded positively. The patient's sputum afterward showed the presence of tubercle bacilli.

There is little if any diversity of professional opinion among those who have had considerable experience with the tuberculin test as to its diagnostic value when judiciously employed. As pointed out in a previous article, "its use for diagnostic purposes has been condemned by writers who, almost without exception, failed to avail themselves of an opportunity to make a practical test."

I am deeply impressed with the belief, from a limited experience only, that its more general employment, with judicious care, would re-establish its superior value, in properly selected incipient cases. Among those writers who are entitled to be heard and who have spoken in no uncertain tones in favor of tuberculin as a diagnostic agent in tuberculosis are J. T. Whittaker,[18] M. Beck,[19] E. L. Trudeau,[20] F. W. White,[21] A. C. Klebs,[22] G. G. Sears,[21] E. O. Otis,[23] Von Jaksch,[24] and others.

I have prepared two tables, which appear in my article (to which reference has been made above), Table No. 1 showing the total number of cases that have been injected with tuberculin—3638—the total number of positive reactions—2185, or 78 per cent.—and the dosage and particular preparation employed by different observers. With a view to obtaining greater accuracy of results, a consideration of the character of the cases at the time of the injections was deemed necessary, and this method was adopted in Table No. 2, which sets forth the figures indicating how many were doubtful and how many undoubted instances of the disease at the time of injection, with the percentage of reactions of each respectively.

In 1470 dubious cases, 71.89 per cent. reacted. What percentage of these cases subsequently developed a confirmed tuberculosis, or the percentage in which the diagnosis was corroborated by necropsy, can not be even approximately told. During my collective investigations, however, I found that writers who had experience with Koch's method referred to individual cases that either came to autopsy and showed tuberculous foci or later manifested the obvious signs and symptoms of the disease. Of the three cases which I recorded above, two were similarly verified, one at the autopsy table, and the other by the detection of tubercle bacilli in the sputum. I have employed tuberculin in 12 suspicious cases, of which 7, or 58.3 per cent., reacted. Is the tuberculin test attended with any risks for the patient? It must be confessed that there is a prevalent impression that tuberculin injections facilitate the diffusion of the bacilli in the system. Virchow,[25] who originally promulgated this view and whose published argument based on his-



CASE 1.

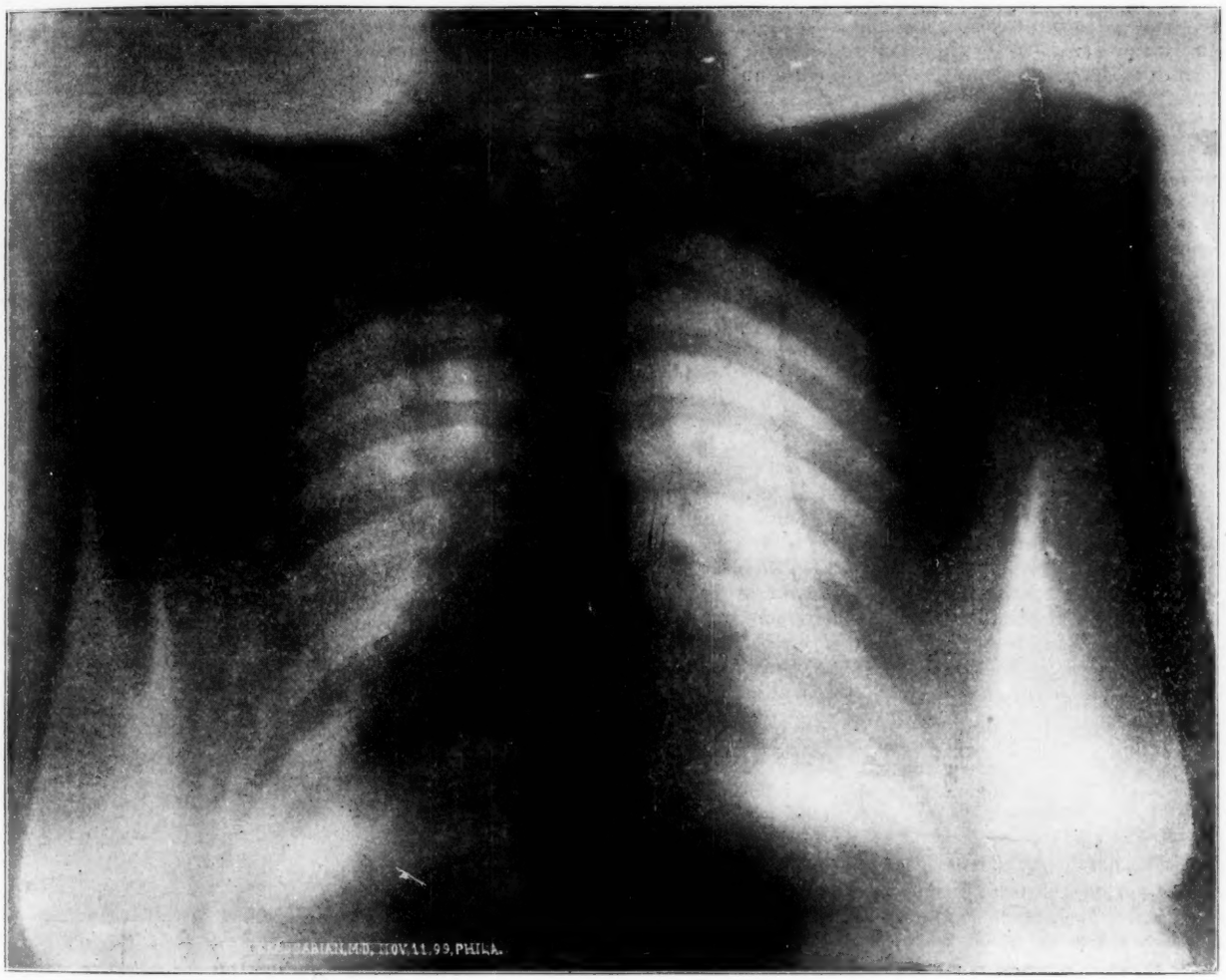
tologic and pathologic data caused tuberculin to fall into almost universal disrepute, has quite recently receded from his former position, and he now approves of Koch's method in selected cases. It is worthy of note that in not a single series of cases among the many included in the tables which I have prepared is mention made of any ill effects. At all events, I have not met a solitary authentic report of a case in which the disease has been disseminated to distant parts of the economy with ensuing acute tuberculosis.

Numerous observers have noted reactions in the so-called non-tuberculous subjects and in individuals suffering from other affections. They have been obtained in leprosy, carcinoma, syphilis, actinomycosis, chlorosis and other affections, as well as in 8 or 9 per cent. of apparently healthy individuals. In reactive cases of this sort, however, unsuspected foci may exist.

The dose and the particular class of cases to which the tuberculin is applicable are questions that demand careful consideration. As elsewhere pointed out, "tuberculin will tend to occupy its true sphere of usefulness just in proportion as the profession will in future keep in mind two rules as a guide, to wit, moderate dosage—mg. 2 to 5—and the limitation of its use to suspicious incipient cases, or those that are unrecognizable by other means." It is to be recollected that early, suspected cases are as a rule sensitive to the test and massive doses are not required.

The symptoms to be expected from a reaction are malaise, general depression, anorexia, headache, pain in the back and limbs, sensation of heat and cold, followed by sweating and an elevation of temperature to 101 F., or over. The reaction usually occurs in about 12 hours, rarely as late as 24 hours, and continues from 24 to 48 hours. If no reaction follows the first injection, a larger dose—up to mg. 10—should be used, but not until after the lapse of several days. As forcibly pointed out by Wells,[15] "in the tuberculin test a negative result is of great importance, because, if the observations have been carefully made, we may affirm that not only is the suspected pulmonary affection not tubercular, but that there are no latent pulmonary foci and that tuberculosis does not exist in other parts of the body."

Among the most valuable agencies for the early diagnosis of pulmonary tuberculosis are the Roentgen rays.



CASE 2.

In phthisis these radioscopic appearances are usually observed in the subapical regions, and they sometimes show the presence of tuberculous infiltration and consolidated areas before either the physical signs are obvious or the microscopic slide demonstrates the tubercle bacilli in the sputum. It is doubtless true that reliable knowledge from the use of the Roentgen rays and fluoroscope is possible only to an expert or an experienced observer. Again, the value of this means of recognizing pulmonary tuberculosis in its first stage would be greatly increased, if the images shown by the fluoroscope could be satisfactorily photographed in all cases. Francis H. Williams[26] states that he has discovered radioscopic evidences of consolidation before physical signs of such change were present; also that he has found indications of the ex-

istence of tuberculosis when this disease had not been suspected previously. Stubbert[27] has also reported one or two instances in which "slight haziness has been observed in spots which at the time showed no other physical signs of disease, but where they subsequently developed."

The practical utility of the X-rays in the diagnosis of incipient pulmonary tuberculosis may be further illustrated by the notes of the following cases that fell under my care:

CASE 1.—S. H., female, married, age 28 years, cigar-maker, first applied at the outpatient clinic of the Medico-Chirurgical Hospital, June 6, 1899, for treatment. A brother died of acute phthisis. Patient had had some childish disease, but later in life nothing worthy of comment until the onset of the disease for which she sought medical advice. Her illness began with paroxysmal pains in precordia, and this lasted for a considerable period of time. The day previous to her visit, she had expectorated blood, which she states was "coughed up"; quantity of blood was small, bright-red and frothy. The abnormal physical signs were impairment of percussion-note and harsh breathing, with prolonged, high-pitched expiration at right apex; and lack of vesicular quality of the breath sounds, with prolonged, high-pitched expiration at left apex; all signs, however, were less marked than at right apex. Microscopic examination of the sputum gave a negative result. Later, an X-ray examination showed an abnormal shadow or marked haziness at apex of both lungs, more marked at right, i. e., the apex that showed the abnormal signs the more pronounced. (See Fig. 1.)

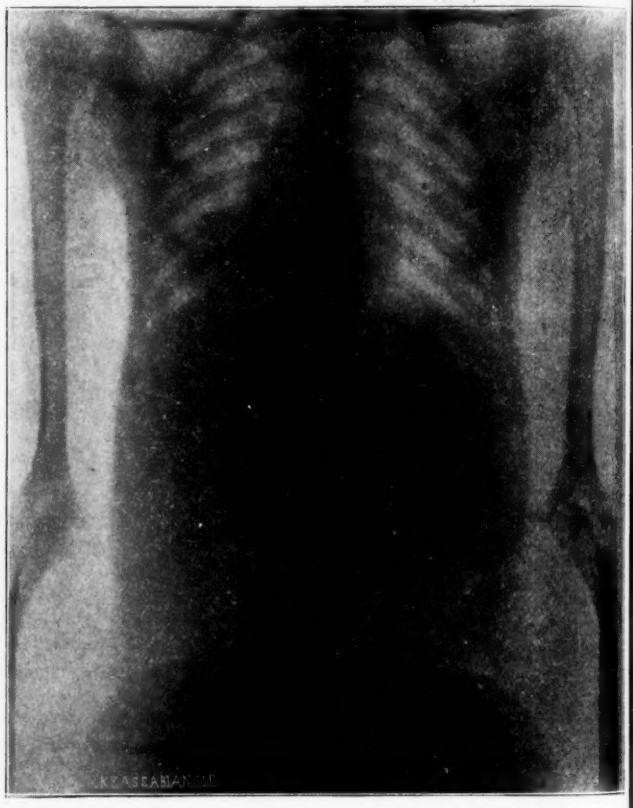
CASE 2.—P. K., age 29 years, cigar-maker, applied for treatment at outpatient clinic, November 10, 1899. The family history is entirely negative as to pulmonary tuberculosis. Patient escaped childish diseases; he had had typhoid fever one and a half years previously, confining him to bed for ten weeks. Since then has been complaining of persistent gastric disturbance, as evidenced by eructations of gas and dull pains in the epigastrium after meals; there has been some dyspnea on exertion and cardiac palpitation at intervals. A few days prior to his first visit, patient began to expectorate bright-red blood; this was still present. Subsequently there was neither cough nor expectoration. The amount of blood lost did not exceed half an ounce. An examination of the throat and larynx gave a negative result, and the same was true of a physical examination of the thorax, although the chest was of the paralytic or phthisical type. After excluding all the causes of hemoptysis except pulmonary tuberculosis, an X-ray picture was made by Dr. Kassabian. This showed commencing consolidation over circumscribed areas on both sides just below the apices. (See Fig. 2.)

CASE 3.—J. O., age 14 years, errand-boy, was admitted to the wards of the Medico-Chirurgical Hospital, November 13, 1899. Father died, aged 52 years, of heart and lung disease, the precise nature of which the patient does not know. One sister is in delicate health. The lad had had the usual diseases of childhood and a severe illness of unknown character a few years since; had always been in delicate health. The present illness began about four weeks before he fell under my observation. The first symptoms complained of were malaise, headache, a slight cough in the evenings and mornings; more or less abdominal pain, associated with slight diarrhea. The evening temperature on admission was on the average about 100 F., but abdominal pain, diarrhea and cough had largely subsided. Physical examination showed a paralytic or phthisical thorax, without any other abnormal physical signs. After excluding typhoid fever, latent tuberculosis was suspected, and tuberculin was injected; this was followed by a positive reaction. An X-ray examination was also made by Dr. Kassabian and showed a slight haziness below the left clavicle. (See Fig. 3.)

Whether or not this patient will develop the more active and obvious lesions of the disease remains to be seen.

CASE 4.—M. B., female, age 17 years, colored, American, housework; fell under the care of Dr. A. E. Blackburn at the outpatient clinic of the Presbyterian Hospital, September 7, 1898. The family history was indefinite; the mother deceased, but cause of death unknown. Patient had had measles in childhood, otherwise the previous history was negative.

Present illness began three years ago with cough and expectoration; these symptoms had persisted until she applied for relief, there was no loss of flesh and no night-sweats. Physical signs at time of first visit: defective expansion, increased tactile fremitus, impaired percussion resonance and increased vocal resonance over right apex, anteriorly, and left apex normal. On November 3, no tubercle bacilli were found; they were found, however, on February 10, 1899. Dulness on percussion and prolonged expiration over right apex. March 30 moist râles at both apices, more marked at right. June 8, beginning cavity formation in right lung at third rib. August 17, signs of cavity well marked in right chest. Photograph of fluoroscopic plate shows a distinct shadow extending from right apex to fourth rib. There is no rare area or bright spot to indicate the presence of a cavity.



CASE 3.

This may have been due to the superimposed dense area occasioned by the thick cavity-wall and pleura; again the cavity may have been filled or nearly so with secretion to account for the absence of the rarer area of bright spot. I regret that the patient had not been minutely examined just prior to the use of the Roentgen rays. The last case reported above (Case 4) can not be classed as an incipient one, but is included because of its great interest, as showing a source of fallacy in skiagraphy in the stage of cavity. The agglutinative reaction is as yet without diagnostic value.

The principal object of this paper is to indicate the comparative infrequency of the presence of tubercle bacilli or of clear physical signs as keys to the situation in the commencing stage. It is obvious that physicians should more generally make use of other aids on which a diagnosis sufficiently accurate for practical pur-

poses could be made, thus affording a basis of therapeutic and climatic indications while the disease is yet amenable to treatment. Among the means previously described, I would re-enumerate points relating to causation, including heredity and the numerous circumstances that expose an individual to infection, and the varied manifestations of the disease at the very onset—embraced under the rarer modes of invasion—described above. A not uncommon association is to find in subjects hereditarily predisposed or thrown into prolonged contact with a consumptive, the later development of suspicious features, which have been grouped above under various heads. The commonest group includes those cases in which a suggestive history is combined with an unproductive, intractable cough. No matter, however, which of the numerous phases this common affection may assume at the onset, certain crucial tests should not be overlooked. I refer particularly to the systematic and persistent use of the clinical thermometer, the tuberculin test and the use of the Roentgen rays—one or all. The adoption of this method is urged, because it has been the most satisfactory for the recognition of phthisis at the earliest possible period. Personal experience enables me to speak with confidence concerning the retrospective diagnostic significance of these clinical criteria, either singly or unitedly; and they establish the existence of a well-defined clinical stage, which is quite variable in duration and presents the ordinary therapeutic indications of this disease. The importance of recognizing this stage springs from the necessity of bringing the cases under appropriate treatment before extensive destructive changes occur and efforts at treatment are hopelessly futile.

It is an accepted position that unless the cell-condition is favorable for the growth and development of the bacilli there is manifested an innate tendency to spontaneous limitation and healing. This fact explains why in more than 50 per cent. of the human family the bacilli not only gain entrance into the body but also effect a lodgment, while less than 14 per cent. of the deaths from all causes are ascribable to tuberculosis. It is true that spontaneous healing occurs most commonly in local varieties of tuberculosis—common in children—as of the lymph glands, bones and joints. I shall deal with the treatment of incipient pulmonary tuberculosis only, and desire to emphasize at the outset that medicines are unquestionably of less value than the more natural agencies, hygienic and climatic, that aim at reinforcing nature's efforts at spontaneous recovery. I have a fixed belief that a successful resistance to the invasive forces in this disease can be best accomplished by an appropriate environment including better hygienic living, better far than by the use of any known serums. The physician often finds well-marked evidences of pulmonary disease at his first examination, and under these circumstances it is clearly his duty to select a suitable climate with particular reference not only to the stage of the affection but more especially to the individual. On the other hand, highly suspicious cases, or such as show afternoon fever, or lung-involvement on fluoroscopic examination, or respond positively to the tuberculin test; even though the microscope fails to reveal bacilli, should be treated in a manner similar to typical incipient tuberculosis, or that showing the presence of tubercle bacilli, since it has been found that these cases usually become characterized soon or late if allowed to drag on without appropriate management. The profession will not awaken to the proper sense of its responsibility until this course is adopted.

The principal object of treatment in all cases is to improve the general nutritive processes, since it is in this way, and in this way only, that the natural defensive processes can gain the day. In general terms, the climatic requisites for consumptives are purity and equability of climate with an abundance of sunshine; dryness of the air and high altitude are of subsidiary value. Delafield's dictum, that that climate "is most suitable in which the patient feels well, eats well and gains in flesh and strength," is excellent. According to my experience, the Adirondack region meets the indications in incipient cases better than any other convenient resort, although I have seen excellent results also from a stay at Thomasville, Ga., Southern California, New Mexico and Colorado. Dr. P. Marvel informs me that Atlantic City gives good results in the more chronic forms of fibroid phthisis. I have found that this popular resort affords excellent advantages during the cold season for incipient cases. The stay should not, in this class of cases, exceed one month or six weeks, and then a change to the mountain resorts already mentioned should be made. Finally, I have witnessed excellent results from a sojourn in the Pocono Mountain region, Pennsylvania. In short, it will be found that an inland locality that affords a pure atmosphere and can boast of the absence of great variations of temperature will produce good results. In this connection I would emphasize the familiar fact that mountain air and that of the virgin forest are helpful, principally because they possess these prime climatic requisites. Forests, particularly pine-groves, favor atmospheric purification, since they generate ozone, which oxidizes the impurities contained in the air; they also favor to an equal extent an equable temperature by maintaining a constant humidity.[28]

As elsewhere stated, while it is essential to send patients to suitable resorts, the most satisfactory results are obtained from the combined climatic and sanatorium treatment. If situated in a suitable climate, and if properly officered and well equipped, they show results that surpass all other known methods of treatment. The principal advantages offered are due to rigid system of hygiene under the close supervision of competent medical officers. As pointed out in a recent paper,[29] there are a large group of cases of incipient pulmonary tuberculosis among the middle and lower classes that require institutional treatment. For such, sanatoria conveniently located in close proximity to large municipalities, though with special reference to such factors as purity of atmosphere and protection from chilly blasts, by natural elevations or the woodland, should be selected. It is scarcely possible to obtain for them the most salutary climate.

The physician must bestow close attention on the patient's diet and on the condition of the gastrointestinal tract. A preliminary course of gastric antiseptics and stomachics, coupled with an open-air existence little short of injurious exposure, sometimes stimulates the appetite, which is usually poor or even lost, and increases digestive power. The appetite may be rendered keen by a change of air, especially to the seaside, but the patient should not be sent to the seaside during the warm season, if cough be present. I would strongly advise in favor of a rigid system of feeding, even in the early stages, and the French method of forced feeding deserves a trial if there be absolute loathing of food.

Medicinal agents in the early stages are employed to increase the bodily resistance by improving the principal nutritive functions. I would place creosote in this cate-

gory; it enjoys the confidence of the profession to a greater degree than any other remedy and its use is sometimes followed by lessened cough and expectoration, amelioration of the night sweats, lessened fever, with a gain of strength and weight. Doses no larger than can be tolerated by the stomach are to be prescribed. Indeed, any remedy that interferes in the slightest degree with the function of the stomach is to be withdrawn immediately. Among the most promising remedies employed with a view to improving the nutritive processes is cod-liver oil, when this agent does not tend to impair the appetite and digestion, but on the other hand is well borne. The hypophosphites are especially serviceable in a large proportion of early cases, and the same is true of arsenic, though, perhaps, in a smaller percentage of instances.

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THE RELATIVE IMPORTANCE OF VALVULAR AND MUSCULAR LESIONS IN DISEASES OF THE HEART.*

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PHILADELPHIA.

It would be incorrect to say that the importance of affections of the myocardium has been but recently recognized; yet it is probably true that the attention of teachers and authors has been much more actively given to these affections during the last four or five years, and that among physicians not engaged in teaching or writing, the subject, while not ignored, has not even yet received the attention it deserves.

One reason for this is that until recently, at least, in the didactic lectures, in the clinical lectures, in the ward classes, and in the quiz room, so much stress has been laid on the diagnosis of valvular lesions and the recognition of cardiac murmurs that the average student leaves college with the conception of valvular murmurs and heart disease as synonymous. In post-graduate teaching I have frequently had experienced men, as well as recent graduates, report that a patient's heart was normal because they had failed to find any valvular murmur. Furthermore, in considering the treatment of patients presenting valvular murmurs, what has seemed to have most weight with the majority of physicians, as observed in post-graduate teaching or in consultation practice, has been the name of the valvular condition—mitral regurgitation, aortic regurgitation, mitral stenosis—while comparatively little attention has been paid to the condition of the cardiac musculature or to the blood-vessels. Concerning the great importance of the vascular system in diagnosis, prognosis and treatment, I have frequently written, and in this communication shall merely allude to the matter. Attention is now directed to the importance of the condition of the musculature of the heart, which experience shows, even if *a priori* considerations did not so indicate, means more for the patient's life and comfort than does the condition of the cardiac valves. To this statement there is but one important exception, namely the case of mitral stenosis with great narrowing: of which more hereafter.

VALVULAR LESIONS.

In many cases of valvular lesions, even of long standing, compensation is so good that under all ordinary conditions of life the function of the heart is performed almost perfectly; and it is only when extraordinary exertion, mental or physical, or extraordinary emotional strain throws an additional burden on the circulation or calls for more quick adjustment of circulatory relations, that the impairment is seriously felt. To drug such a patient because auscultation reveals an organic murmur at base or apex would be to increase his difficulties, not to lessen them. Treatment by regulation of diet and of physical and mental activities may often be judicious and tend to prolong the period of maintained compensation. For many years I used to show to my ward-classes a man past three score and ten, who had a clear history of mitral incompetence for more than thirty years, and who needed no medicine. I have watched a number of children, whose heart-valves were damaged by endocarditis of scarlet fever, grow into adolescence and manhood, even into womanhood with its duties of maternity, and still need no druggings. Sometimes the hypertrophy exceeds the needs of circulatory compensation, in which case temporary diminution of the patient's activity, purging and the judicious use of bromids and aconite will usually subserve the therapeutic indications. But whether or not the treatment outlined suffices, the point to which attention needs to be chiefly directed is distinctly the muscular condition and action, not the valve-lesion. On the other hand, when compensation has not been good, or having been good has begun to fail, the valvular lesion is, in most cases, but a secondary element in prognosis and treatment. As in all engineering problems, all the conditions need to be studied, and the measures appropriate in mitral regurgitation are often ill adapted for aortic stenosis. But it is pre-eminently the failing muscle that needs to be nourished, strengthened, stimulated or regulated. It is the failing muscle from which

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the burden needs to be lifted by reduction of physical, mental and emotional activities and by therapeutic devices. Unconsciously, however, the therapeutic lesson has become somewhat organized in the automatic motor apparatus of the profession, and physicians who follow the rules laid down in the text-books or by their teachers for the treatment of various valvular lesions, usually adopt measures which are, in the main, directed toward the indications furnished by those signs and symptoms consequent upon the good or bad condition of the cardiac muscle.

MITRAL NARROWING.

I shall, therefore, not dwell on this phase of the subject, save to direct attention toward the problem presented by cases of mitral narrowing. That this lesion is more common than the older text-books would indicate seems to be becoming the general opinion. Compensation is never fully established, for the obstacle is so placed that neither increased force of cardiac contraction nor increase in the containing capacity of the chamber behind the obstruction can succeed in forcing the due quantity of blood into the left ventricle and thence into the arteries with each systole. Perhaps nothing in cardiac semeiology is more significant than the disproportion between the great systolic energy and the weakness and smallness of the radial pulse, in cases of marked mitral obstruction. In order to permit the muscle to act as effectively as possible under the circumstances, it is necessary not only to dilate the peripheral vessels by nitroglycerin or baths or appropriate exercises, but also to diminish its own wasted and wasting exertions. For this purpose strontium bromid, and even small doses of aconite, carefully watched and regulated, have proved useful; and the apparently paradoxical, but really useful, combination of aconite and digitalis has also been of great service.

HEART DISEASE WITHOUT MURMURS.

It is, however, not in valvular lesions, but in those cases in which rational symptoms of cardiac impairment exist, without murmurs or with inconstant murmurs, that the diagnostic problem becomes most difficult and that routine treatment not only fails to do good but frequently does harm.

ACUTE DILATATION.

I can remember with what diffidence I first made the diagnosis of acute dilatation of the heart, and with how much relief I welcomed the confirmation of this diagnosis by my distinguished teacher called in consultation. Yet acute dilatation, not necessarily fatal, has seemed by later experience not common, it is true, and yet not so rare as to call for the report of isolated cases. In certain subjects it occurs more readily than in others, and the attack may be repeated more than once. I do not refer now to the cardiomyopathies of acute infectious fevers, but to the idiopathic acute dilatation, that is to say, dilatation occurring suddenly or in a comparatively short evolution, from direct strain on the heart.

The readiness with which changes in the size of cardiac chambers may occur is not generally recognized. I recall the case of a boy of 12 years in my dispensary service at the Philadelphia Polyclinic, whom, however, I saw only once, in whose case slight changes of position altered not only the position of the apex but also the transverse area of dulness, as demonstrated by the independent observation of two component diagnosticians. The phenomena of cardiac changes in the warm bath have been made familiar by the publication and multiplication of the observations of the Nauheim school. Fright, and sometimes less severe emotion, especially in the anemic and poorly nourished, will cause acute dilatation of the heart; and this condition may often persist for some time after the cause of disturbance has been removed.

Other causes leading to acute dilatation are the effect of rarefied air at altitudes and sudden, violent, or relatively excessive exertion, as in climbing, bicycling, swimming, or in athletic contests; the general or temporary physical condition of the subject and the physical and psychic environment having much to do in the determination of a relative excess; while the quantitative effort of the skeletal muscles may be less important than its character in determining heart strain. When pericardial adhesions or valvular disease, or innutrition or even latent disease of the myocardium exists, acute dilatation is much more likely to occur.

ACUTE MYOCARDITIS.

Acute myocarditis is common in all the infectious fevers even when endocarditis and pericarditis do not occur. Perhaps rheumatism, diphtheria, typhoid fever, pneumonia and influenza give the most striking examples of this class of cardiac affections, and most physicians recognize this during the persistence of the exciting disease. It is often overlooked, however, after convalescence has begun; and many patients recovering from influenza in particular are allowed to return to active work long before the condition of the heart warrants it. A condition of myopathy is thus set up, and one frequently meets with cases presenting such symptoms of impaired circulation as dyspnea, vertigo, inability to walk rapidly or to climb, sometimes with edema of the extremities, intermittence of the pulse, and precordial distress, in which the origin of the symptoms can apparently be traced to a recent or remote attack of influenza.

CHRONIC MYOPATHIES.

Still more difficult of recognition and more frequently overlooked are the chronic myopathies which have not had distinct origin in some frank infection and which have not followed valvular disease or nephritis.

Recent works upon pathology describe many varieties of myocardial lesion, with various forms of degeneration in the muscular fibers and with varying quantities and distribution of interstitial or substitutional fibrous tissue. Huchard, among the French observers, has made a number of refinements in the nomenclature of these conditions and has described special symptoms observed during life as associated with special forms of myocardial degeneration and interstitial alteration discovered post-mortem. Much of this, however, seems to be premature. It is well that histological studies of the dead heart should be made as systematically as possible, and the utmost information concerning the character of the structural changes gathered; but it is only after a large number of cases shall have been carefully traced in their clinical histories over several years, and the intimate nature of the lesions found after death in such cases carefully collated and compared, that we shall be enabled to analyze the data and establish the signs and symptoms which, observed during life, shall warrant a diagnosis of some special affection of the myocardium. Even the term "myocarditis" as a generic designation seems to be going too far, unless we are prepared to assert that every alteration of the cardiac muscle and every form of increase of connective tissue indicates an inflammation. The French observer's term,

"myopathy," or, if we prefer to Anglicize it, "muscle disease," is better, and represents the full extent of present accurate knowledge applicable during life, to the diagnosis of the vast majority of the chronic cases which have not followed acute infectious diseases.

CAUSATION.

Among the principal causes of disease of the cardiac muscle in American men is the long-continued, even moderate, use of alcohol, and especially when this has been associated with the use of tobacco. I have not observed the same degree of impairment in those who have used alcohol alone or those who have used tobacco alone as in those, and these, of course, form the majority, who have used both. What constitutes temperate use of alcohol or tobacco varies very much with the individual. In some patients disturbance of the cardiac rhythm and irritable and weak over-action of the heart begin soon after the smoking habit has been established. In others it occurs only toward the involution period of the organism; that is, after middle life. It is probable that the changes induced by tobacco are but slight at first, so slight that we are warranted in considering them neuro-functional; but that the long and constant repetition of these disturbances finally, by exhaustion of certain qualities in the cardiac cells, brings about degenerative structural change. The same may be true of alcohol, though the well-known tendency of this drug to produce sclerotic changes in general warrants the belief that in the alcoholic myopathies structural changes are present from the first. Alcohol and tobacco usually give rise to other sclerotic changes also, in the vessels especially, which secondarily lead to impairment of cardiac nutrition by ischemia and to increase of the work placed on the heart to carry on the circulation, owing to the heightening of peripheral resistance. Thus, further changes occur in the cardiac muscle in addition to the direct effect on it of the poisons, and to exhaustion through their influence on the nerves. Gout or lithemia, grouping under this head those general conditions of toxemia associated with the overproduction of uric acid, but in which xanthin and hypoxanthin and other alloxuric products may be equally potent, is often, too, associated with the alcoholic habit; but in cases in which alcohol is used not at all or but moderately, and in which there exist hereditary tendencies to this perversion of metabolism, myopathy is not infrequent. So, too, syphilis, in association with or independent of alcohol, may give rise to changes in the heart, not necessarily gummatous, which in turn give rise to vague clinical symptoms often difficult of interpretation. Sexual excesses, mental strain, especially if worrisome, physical overwork, whether in the serious pursuits of life or in games and athletic exercises, malnutrition, lead poisoning, the abuse of tea and coffee, and, in exceptional cases, emotion, are to be added to the list of causes.

RATIONAL SYMPTOMS.

The symptoms, at first, at least, are usually vague. They are inconstant, not only as regards different cases, but as regards the same case at different times. At first, and sometimes throughout, they may be comprised under the general head of rational rather than physical signs. Death, indeed, may occur suddenly without any known history of either rational or physical signs. It is probable that in most cases, if not all, with the exception of cases of fatty infiltration and fatty degeneration, the earliest stage is one of hypertrophy—a pathologic, not a physiologic or compensatory, hypertrophy—this being followed by exhaustion of the undifferentiated cellular elements out of which new fibers are furnished for growth and repair, and this, in consequence, by degeneration of muscle tissue and proliferation of connective tissue. Overaction, spasmodic and irritable in character, is, therefore, followed by defective and irregular action, and the progress of lesions is marked by a corresponding change in the associated semeiology. Dyspnea, constant or occurring especially on slight exertion, tinnitus aurium, headache, dilatation of the pupil, vertigo, vague sensations of cerebral and precordial distress, sometimes actual pain, not rarely angina pectoris, cervical and occipital pain, slight blueness of the lips, injection and later dulness of the conjunctiva, increased force and tension, later irregularity and intermittence of the pulse, sometimes transient edema, often digestive disturbance, unaccountable languor, drowsiness, undue readiness to fatigue, irritability of temper, sudden cardiac palpitation and occasional and increasing periods of very slow and feeble action of the heart are noted, but not all at the same time or in the same patient. Besides this, it is evident that many of these symptoms are common to a variety of affections. Many of them may result from indigestion, most may occur from anemia, many are associated with nephritis, and they are nearly all to be found in neurasthenia. Especially difficult is it at times to differentiate between the unbalanced action of the neurasthenic heart and the irritability of impaired power of the myopathic heart. One needs to be specially guarded in such a diagnosis, for the statement to a neurasthenic that he has heart disease may so frighten him as to produce it. Murmurs are perhaps more common in neurasthenia than in pure myopathies, the arrhythmia is more changeable in its type, and the general characteristics of the patient are to be taken into consideration. In gouty neurasthenics and in other gouty subjects it is easy to refer to the heart the pain of intercostal neuralgia, and in both gouty and syphilitic subjects it is easy to mistake the pain of costal periostitis for cardiac pain. Sometimes, however, genuine cardiac pain of myopathy or vascular sclerosis, intercostal neuritis and gouty or syphilitic periostitis are all present. Mistakes are only to be avoided by careful observation and weighing all the phenomena of the case.

THE COSTAL FRINGE.

Verging on the definition of physical signs, and I believe quite significant of cardiovascular alteration, are ectases of superficial veins, most marked on the face and thorax; in the latter situation sometimes forming what I have denominated the costal fringe, that is to say, a network of very fine red, pink or blue vessels following the borders of the costal arch like a fringe of embroidery. This, however, is sometimes found in patients presenting no rational or physical symptom of cardiac disease, and is not infallible. Usually the cardiopathic patients who present it show slight permanent enlargement of the liver, and are subject to attacks of engorgement of that viscus.

PHYSICAL SIGNS.

As regards percussion and auscultation, these are, in the late stages of myopathies, quite definite, but not so in the earlier stages. An increase in the precordial dulness in both directions laterally, with displacement of the apex-beat downward and to the left, gradually takes place. Sometimes the increase is irregular in outline, and one suspects localized dilatation of the heart, or cardiac aneurysm. With this at last goes feebleness, perhaps disappearance of apex impact or weakness

and diffusion of the wave. An impurity rather than a definite murmur of the systolic sound is among the early signs, as is also, and I think this is quite significant, an approximation in quality between the first and second sounds. The first sound is shortened in duration and its tone becomes more valvular. Sometimes the second sound is relatively or actually accentuated. Later the sounds become rather empty, resembling in rhythm and in character the muffled drum of the fetal heart. This embryocardia is easily recognized, and is significant in diagnosis. Duplication of the first or second sound may be developed. Gallop rhythm is never an early sign, but its evidence of muscle-weakness is always clear, whether in uncomplicated myopathy or in failure of compensation in cases of valvular lesion. Intermittence, even to asystole, is also significant, yet one may watch and wait for three or four minutes before he notes the dropping of a single beat, either with the finger at the wrist or with the ear over the apex, and then several beats may be dropped in a minute, sometimes as many as one beat in every four or five. Sometimes the patient himself has a sensation of stoppage of the heart, and this may or may not be accompanied with an actual intermission. It may take place frequently or but rarely. In one of my cases it was said to occur but once a day. With the patient quiet, whether recumbent or seated, or even standing, there may be neither intermittence nor irregularity; yet slight exertion, or even change of position, induce both. Among the symptoms on which I am acustomed to lay stress in the diagnosis of myopathy is undue readiness to change in the frequency or character of the pulse on slight change in the position, activity, or emotion of the patient. The volume, tension and strength of the pulse vary greatly in different cases or in the same case from day to day, and are, of course, affected by the presence or absence of concomitant disease of the arteries, the latter being usually present. They vary much, also, under medication, more, perhaps, than in uncomplicated valvular disease. Murmurs are sometimes present, constantly or inconstantly, due not so much to sclerotic changes in the valves—although these doubtless occur at times in connection with the sclerotic changes in the parenchyma of the heart—as to relative insufficiency.

For complete closure of the cardiac orifices the valves alone do not suffice. The musculature, not only of the auricular and ventricular walls, but also the papillary muscles, must act perfectly, in order to secure complete occlusion of an orifice in systole. Failure to accomplish this gives rise to adventitious sounds. Sometimes these are so marked that the incorrect diagnosis of valvular lesion is difficult to avoid.

TREATMENT.

In the treatment of these conditions, endeavor should be made to remove or mitigate the exciting causes which are usually in continuous influence. In the cases of coffee, tea, alcohol and tobacco this is extremely difficult, sometimes impossible. The reduction of the mental and physical activities of the patient is usually desirable, though this should not be pushed to excess in early cases, in the absence of such symptoms as edema, or evidence of pulmonary or visceral congestion, because the nervous worry induced may be so harmful as to overbalance the gain. It is always well, however, unless there is some counterindication, to reduce the work placed on the heart by the use of nitroglycerin in small doses; sometimes so little as 1/400 of a grain twice a day answers the purpose. The diet is, of course, to be carefully regulated, the skin and the eliminative functions generally are to be kept in good condition, and all excesses are to be avoided. All this "goes without saying." Warm carbonated, saline baths, with massage and gently resisted movements, after the method of Schott, of Nauheim, but modified to suit the individual patient, have been of great benefit in many of my cases—so much so that the patients have often wished to continue the treatment when I have thought it best to intermit. These measures should never be kept up for too long a period consecutively, though they may be renewed from time to time. The question of exercise in some of these cases is very difficult; for with the gouty and in the early stages of their cardiopathy it is often desirable to prescribe moderate exercise. The tendency of the patient is to do nothing, or to indulge in exercise, as in other things, immoderately and spasmodically. This, therefore, becomes a question of good judgment in the individual case, not only as to the requirements of the case, but as to the trustworthiness of the patient. When severe symptoms are present, absolute rest becomes necessary.

Among drugs to strengthen the heart, improve its nutrition and regulate its action, strychnin is the most generally useful. One may also employ from time to time digitalis, of whose preparations (following Beates) I prefer Merck's German digitalin; adonis, of which a good extract or the glucosid adonidin may be used; spartein sulphate, caffein, cactus, of which last the fluid extract or a solid extract may be used, or strophanthus in the form of tincture or solid extract. Much might be said concerning their choice in different cases, but such is not the main object of this paper, nor does time permit. Whatever drugs are used, none should be used continuously, but judicious alternation should be resorted to, and sometimes combinations will in individual cases act better than single drugs. Arsenic is of service as a general nutrient, as are also iron, gold and sodium chlorid, and sometimes, in syphilitic cases, courses of mercurial inunction, with sweating by means of hot baths, followed by potassium iodid in full doses. In some cases, both of syphilitic and non-syphilitic patients with tobacco heart, potassium iodid in small doses is of service. In gouty cases the strontium salts, both iodid and bromid, have seemed of service, not only as addressed to the underlying condition, but also as soothing the cardiac action. For combination with these, when needed, strontium lactate is an excellent diuretic. In acute conditions of cardiac incompetence, whether in the course of chronic valve and muscle disease or suddenly arising without previous disease, venesection is usually indicated. The heart can not empty itself, the patient is in great danger, and blood should be drawn promptly, fearlessly, and in sufficient quantity to afford relief.

SUMMARY.

1. In the great majority of cases of chronic disease of the heart, the exact site and nature of the valvular lesion, while always to be taken into consideration in treatment, are of less importance therapeutically and prognostically than the state of the cardiac muscles.

2. The most important exception to this general rule is in the case of mitral stenosis with great narrowing. Aconite is often of use in this condition to reduce the excessive muscular effort, even when compensatory hypertrophy has not become sufficient.

3. In many cases in which no evidence of valvular lesion can be detected during life, and in some of which slight valvular alterations, in others normal valves, are

demonstrable after death, there exist rational signs of cardiac incompetence which are due to diseases of the cardiac muscle.

4. The symptoms and physical signs of cardiac myopathy are inconstant, and in the early history of the case may be slight. In the absence of valvular lesions, intermittence or irregularities of the pulse or apex-beat, disturbance of rate or rhythm by slight causes, and recurrent pain referred to the precordium, in non-hysterical and non-neurasthenic subjects, are the principal local symptoms calling attention to the disease of the cardiac muscle. Tinnitus, vertigo, dyspnea, venous ectases, visceral congestion, edema, and other evidences of circulatory disturbance may be slight and escape attention until sought for. There is usually impurity or weakness of the first sound of the heart, with approximation of the two sounds in quality or relative accentuation of the second sound; later embryocardia and gallop rhythm may develop.

5. Gout, syphilis, alcohol and tobacco, tea and coffee, sexual excesses, mental strain and physical overwork, either in serious pursuits or sports, are among the chief provocations of disease of the myocardium, apart from those lesions secondary to the acute infections or consecutive to nephritis or valvular disease. Among the acute infections, influenza is a frequent cause of cardiac muscle disease.

6. Other than the general diagnosis of disease of the myocardium, there is not yet sufficient knowledge of clinical signs to permit accurate recognition antemortem of the pathological nature of the lesion.

7. The diagnosis between neurasthenia of the heart and disease of the myocardium may be difficult.

8. The chief importance of the subject lies in the avoidance of error; *a*, in the prognosis and treatment of valvular disease which may be overtreated or undertreated through failure to estimate properly the condition of the muscle; *b*, in the recognition of serious lesion of the muscular structure of the heart in cases that have been supposed to be normal because of the absence of valvular murmurs; *c*, in the distinction between organic muscular lesions and functional disturbance, and in the realization of the fact that the latter may lead to the former.

9. In treatment, judicious regulation of diet, rest and exercise; avoidance of exciting causes and excesses of any kind; the good functional condition of the skin and eliminative organs, are of the first importance. Warm, saline, carbonated baths and, in some cases, gentle massage and resistance exercises carefuly adapted to the individual case, are of great benefit. Nitroglycerin is the most useful single agent of the materia medica. Strychnin, digitalis, adonis, cactus, strophanthus and spartein have usefulness in individual cases. Arsenic, gold and sodium chlorid and iron are useful tonics. Potassium iodid and mercurials sometimes have special indication. Venesection should be made promptly and sufficiently in the case of sudden and urgent symptoms of cardiac failure.

Amalgamation of Parisian Societies.—Several of the Paris medical, surgical and therapeutic societies are seriously discussing the question of federating, to the extent of allowing the members of one society free access to the meetings of the rest, and publishing a common bulletin of the transactions, otherwise retaining autonomy. Among other arguments in favor of the plan are the increased attendance, stimulated emulation, greater publicity and, above all, the better utilization of the treasures of practical experience too often lost at present.

A CLINICAL STUDY OF MYOCARDITIS.*

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It happens in every one's experience that at particular times clinical observation is specially rich in a single direction. So it has seemed to me that during the past year there have been under observation, both in hospital and private practice, a great number of cases in which the heart muscle seemed to be primarily at fault. From the study of these cases I have come to believe that disease of the heart muscle is a greater factor in the condition of many patients than is usually believed; particularly have I been more and more impressed with the fact that the importance of valvular and arterial disease depends on the behavior of the heart muscle in connection with these lesions. A recognition of the interpendence of arterial and myocardial disease moreover gives new interest and importance to the early recognition of a tendency to an increase of arterial tension. The first indication to the patient of this condition may come through the failure of the heart after having struggled a long time with high arterial tension. The same is true of valvular disease. The lower grades of incompetency of the valves give little or no discomfort so long as the muscle of the heart is intact. These lesions only give symptoms when some disturbance of the heart muscle renders them relatively important.

The lesions of the valves are detected by auscultation. Auscultation also renders valuable aid in detecting the condition of the heart muscle, but the great test is the capacity of the muscle to respond to additional work, and if the choice were given of an examination of the heart by direct or indirect methods, I believe the most valuable information would be received by testing the heart's power under varying conditions. A man who can go up stairs rapidly without loss of breath or undue increase in the pulse-rate has certainly a fairly sound heart-muscle. Another man subjected to the same test might show marked signs of distress, yet these men, when examined quietly in bed, would perhaps give practically the same myocardial signs.

Myocarditis is eminently a clinical disease in that the gross post-mortem findings are not co-ordinate with clinical symptoms. A poor heart doing good work may give far less marked symptoms than a good heart doing poor work, and yet the hope for the future of the latter is far brighter than the former. So while there are well-marked cases that we may study and catalogue with a fair degree of confidence, there are other cases in which it must be confessed there will always be doubt as to the degree of competency of the heart-muscle. A great deal depends on the blood-vessels. A temporary anemia of a damaged heart through the spasmodic contraction of the coronary arteries may cause a fatal attack of angina, while had the patient escaped such an accident he might have lived for years in comparative comfort. We have seen in the hospital patients living for months and years with progressive degeneration of the heart, until finally when they died it was a source of wonder how a heart so degenerated could have carried on its work. Perhaps the most acute cases of myocarditis are the syphilitic ones. In some of these, par-

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ticularly the untreated cases, the disease directly attacks the heart, and we have a true syphilitic inflammation. In others it follows the type of a more chronic form. In either case the indications for active treatment are urgent.

There are two great divisions of myocarditis, which also divide the condition into two very nice clinical groups, diseases of the myocardium, due to the direct influence of infectious disease on the heart muscle, and, second, myocarditis, due to the indirect influence of disease of the blood-vessels or the participation of the muscles in the causes of this disease.

Disease of the blood-vessels acts in two ways in interfering with the integrity of the heart-muscle. It renders the work of the heart more difficult by making it necessary to overcome greater resistance on account of the inelasticity of the vessels, and it also interferes directly with the blood-supply to the muscle itself through disease of the coronary arteries.

The relation of pain to cardiac disease is worthy of study. The interior of the heart is, of course, insensitive to pain, and extensive valvulitis may exist and the patient be entirely unconscious of it. Pericarditis gives pain and tenderness on pressure over the heart. Patients with chronic cardiac disease do suffer from time to time more or less discomfort in the region of the heart, though pain in this region is so common that it is almost an axiom that most pain supposed by patients to be from the heart is of gastric origin. However, connected with chronic cardiac disease is a form of pain of extraordinary severity and terrible significance. Angina pectoris is an agonizing pain in the region of the heart shooting to the shoulders and frequently accompanied by the sense of impending death. All attacks are not so severe. No definite explanation of angina pectoris has ever been offered. True angina is invariably associated, however, with disease of the arteries of the heart and of the heart-muscle. The attacks are sudden in their onset and usually end in recovery. Death during an attack is, however, frequent, though sudden death often occurs in patients subject to angina without the definite development of an attack.

The significance of pain in the left shoulder and breast, when occurring in a severe neuralgic form, is always a topic of interest. Particularly is this so when occurring in persons with no recognized cardiac disease. From observation of such patients it seems to me that such pain is of cardiac origin in a much greater proportion of cases than we realize. Its significance is often hard to make out because these patients go on for months and years without any sensation. Their hearts sometimes act better and sometimes worse, and from time to time they have attacks of pain, but these attacks of pain do not bear any relation to the cardiac action, yet occurring as they do in these subjects we can not but believe that they are of cardiac origin. The lesson to be learned is that when persons past middle life are subject to attacks of severe pain, referring to the left breast and the left shoulder, there is reason to suspect myocardiac disease and institute a careful observation. Cardiac pain has been too definitely classified, for there is no real distinction except in degree between the slighter and the most severe forms. Nor is the pain always confined to one side of the chest. The heart itself is not liable to tenderness. It is an anatomical fact that there is a connection between the nerves of various viscera and the nerves of the corresponding portions of the surface of the body. From this fact it is possible for a disease of a viscus to cause pain and tenderness of the overlying tissues.

The chief symptom of myocarditis is a failure in the power of the heart to respond to demands of extra work, though this is not the symptom that is first developed. The earliest symptom is an irregularity in force and rhythm. The origin of this symptom is probably in the muscle itself in that it does not respond with regularity to the physiologic nervous stimuli. There is another irregularity in force and rhythm that undoubtedly has its action in irregularity of the nerves themselves. It is between these two causes of this symptom that the greatest difficulty of diagnosis arises, and there are cases in which one can only be certain of the existence of myocarditis when there is developed a deficiency in the power of the heart-muscle.

There is no element in the diagnosis of a case that is so difficult to define and yet which makes so profound an impression on the diagnostician as the quality of the pulse. The other day I saw a patient suffering from a slight cold and not supposed to be in any way seriously ill, nor could I by careful examination and questioning define any symptoms of serious disease, and yet her pulse, though not quick, was of a character that showed an incapacity of the heart to do its work. Each beat seemed to throw a mass of blood through the artery like a projectile, the tension between the beats apparently being nothing. The woman was large and not at all firm in her mucular tissue, and had suffered from an attack of pain in the left shoulder at one time recently. This made a diagnosis of myocarditis justifiable, though as yet she did not suffer any conscious symptoms of cardiac insufficiency.

Myocarditis is unusually common in colored people, possibly due to syphilitic infection and to the natural tendency of mixed races to degenerative changes. In the world at large this relative inefficiency of the heart-muscle accounts for the lack of energy, the inability to maintain continuous labor and militates most forcibly against the progress of the colored race when modified by white blood.

The following case illustrates the development of myocardial changes in a hypertrophied heart. I received an urgent call to see a woman between the ages of 60 and 70 years, and found on arriving at the house that she had been up all night suffering from marked shortness of breath and a hacking cough. At first glance the case almost suggested pneumonia, but that supposition was dispelled by the first question or two into the history. It seems that the patient had had unusually good health, never being ill in any way up to about four years ago. At that time she underwent great sorrow and worry at the time of the death of a near relative, became nervous and much run down. Since then she has not been strong. Two years ago she broke her arm, and was annoyed by this for a long time. Beginning at an indefinite time, but most marked for a year and a half, she had been short of breath on exertion, and has not felt equal to undertaking anything. During the past few months this shortness of breath has been more marked, and particularly so since a few weeks ago, when she overexerted herself in climbing the stairs of the elevated railroad and taking a prolonged and difficult trip to a neighboring borough. For the past three days since she has had a cold, her breathing has been quite short at times and she could not lie down with comfort at night.

I found her lying in bed, suffering from considerable dyspnea, with a decidedly anxious expression. The

heart apex was well outside and below the nipple line. Over the apex there was an indefinite systolic murmur, but what was most noticeable was a heaving pulsation of the heart with an accentuation of the aortic sound. Palpation gave the impression of a thick, heaving sac. From the commotion the heart was making it would seem incredible that it was not doing its work, and yet it was evident from a careful consideration of the case that the heart was not only hypertrophied but dilated so that while there was considerable muscular action there was an insufficient contraction of the cavity of the heart to carry the blood properly forward.

The effect of large doses of digitalis on myocarditis that had gone untreated, and which are seen in a late stage is interesting. The foregoing case was given 4 minims of the extract of digitalis every four hours. After taking about six doses the effect on the heart was very marked in that the beats became slower and better separated from each other; the cardiac action, which previously seemed like a peristaltic wave in a thick-walled distended sac, became more like heart beats. The cardiac area markedly diminished. With the digitalis was given iodid of sodium in 5-grain doses. Unfortunately, in the anxiety of this most desperate case the digitalis was carried a little too far, for the patient, while being entirely freed from dyspnea, suffered several attacks of faintness, during which the heart action became extremely slow. This passed over, and later on the patient was nauseated and vomited a small amount of clam broth that had been given. The subjective sensation of nausea continued for some time. During the attack of faintness an overzealous friend administered a tremendous dose of whisky, so that may have had something to do with the nausea. However, it was evident that the patient was suffering the physiologic symptoms of digitalis. This heart was so much dilated and action was so bad that we believed it justifiable to push the drug immediately to this extreme limit. Vomiting in such a case does not do any particular harm, and indeed there are theoretic advantages. Vomiting certainly does clear up pulmonary congestion, and it would seem probable that the violent contractions of the diaphragm and chest with the nervous stimulation might give the opportunity for a dilated heart to gather itself together. At any rate, in spite of the disturbance of the digitalis, the patient's heart action was infinitely improved. A gentian mixture containing the iodid of sodium was substituted for the digitalis, and 1/60 grain of strychnin and 1/100 grain of nitroglycerin given on alternating hours. One can not insist too strongly on the importance of complete physical rest in such cases.

Since beginning this paper I have had the opportunity of making a pathologic examination of a case that is so typical of a certain class, and which together with another case forms a picture of syphilitic myocarditis that was most interesting. Two patients were admitted to the hospital three or four days ago; the one a woman complaining of pains in the bones, worse at night, and presenting ulcerations and old scars in the upper tibial region. The scars were pigmented, and the ulcerations were punched out in appearance. There was no difficulty or hesitation in the diagnosis of syphilis, and as no case of syphilis had been presented recently, it was made the occasion for a brief description of this disease. While speaking the house physician informed me that after the clinic there would be an autopsy on a case that I had seen two days before. I went on to describe this case as being typical of fatal visceral syphilis in a comparatively young person. It was a man who came to the hospital without a very clear history except that he had gradually failed in strength. He was well nourished, and had not the appearance of a very sick man as he lay quietly in bed, but an examination of the heart showed that the muscular sounds were feeble and greatly irregular in force and rhythm. The area of cardiac dulness was somewhat increased toward the left. He showed the same scars over the tibiæ. At the autopsy were found in the heart areas of fatty infiltration, patches of whitish thickening and a pallor of the pericardium. The heart-muscle was flabby and there was a moderate degree of atheroma of the vessels. The other organs were fairly healthy, except that there was a moderate amount of fluid in the right pleural cavity. The man had died suddenly without warning, apparently from a failure of the action of the much diseased heart-muscle. This with the case of syphilis made a very striking and terrible picture and illustrated forcibly that type of myocarditis that occurs in comparatively young people from syphilis. It has been well taught that syphilis resembles in type the other infectious diseases, and, though covering a long course, can be compared at all points with the acuter diseases of this class.

The following case, seen in consultation, is a good illustration of myocarditis of a certain type. A man, 39 years of age, gave a history of having for a number of years had attacks of pain in the side, very severe but not very definite in location or constant in character. These attacks came unexpectedly, and between the attacks he felt perfectly well. The pain was not attributed to cardiac disease. However, for about two years he has complained of discomfort in the region of the heart, and at times of dyspnea on exertion. Still, he was not very sick, and kept on with his work as a builder. Two months ago the dyspnea gradually became much worse, so that he could not lie down, and he came under medical treatment. This dyspnea has never been entirely absent since, and he has developed a good deal of edema of the lower extremities. Physical examination shows a man of not unhealthy appearance, and fairly well nourished, but suffering from extreme shortness of breath, which is exaggerated by the slightest exertion. The heart apex is diffused, but is distinctly felt about two inches to the left and an inch below the nipple. The heart's action is rapid and fairly regular, the first sound being indistinct. In the region of the nipple, and also toward the axillary line, there is a short systolic murmur. The sounds at the base are indistinct, and no murmurs referable to the aortic valves can be made out. The pulse is rapid and feeble, the artery being badly filled. The left lung shows feeble breathing toward the base, which condition is more marked in the right, where some coarse râles are heard. The liver is markedly enlarged and tender, though there is apparently no fluid in the abdominal cavity. The legs and thighs are edematous, but there is no edema of the skin of the upper parts of the body. The urine is said to be fair in amount, contains a considerable quantity of albumin, but no casts. So we have a man 39 years old developing all the signs and symptoms of a heart that is enormously dilated, and which has lost the power of carrying on the circulation. An unusual feature of this particular case is that the heart's action, though having progressed so far toward complete failure, still remains fairly regular. The origin of myocarditis in this case is entirely obscure. The man's parents are living and well, so heredity can

be excluded. There is no history of specific disease or rheumatism and no abuse of alcohol. The man has worked hard, but apparently not in a way to impair his health. It is probable that there have ben slight arterial changes, which have affected the coronary arteries out of proportion with the general arterial system.

Myocarditis is a penalty that comes to those who are intemperate, whereby the tissues of the body are either poisoned by alcohol or allowed to degenerate from disuse. It comes also to many who are intemperate in work and worry, whereby the heart is, as it were, worn out, and it comes last of all as a complication of inflammation of the endocardium or pericardium as a direct true inflammation. The exaggeration of the importance of valvular disease is only natural when it is considered that the symptoms are so plain that they are among the earliest that come to the attention of the physician and among the most striking that he ever encounters, while on the other hand the condition of the heart-muscle presents many difficulties in diagnosis and prognosis. Still, to the patient student of disease the heart-muscle will ever afford a fertile field for thought and observation.

A PLEA FOR A MORE RATIONAL PROGNOSIS IN CARDIAC AFFECTIONS.*

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The prognosis of many of the cardiac affections, both of the orifices and of the walls, is frequently given an exaggerated importance not commensurate with the real conditions present. The Father of Medicine has said: The art of physic is of great extent; life short, opportunity slippery, experience fallacious, and judgment difficult. The universal applicability of this dictum is acknowledged, but it is more truthfully applied to diseases of the heart than to any other of the many ills to which flesh is heir. There are so many factors to be considered in arriving at a definite prognosis, that the possession of excellent judgment, the use of accurate observation, and the power to survey the whole situation in a masterly manner, should be concentrated in every case of heart disease. In striving to render an accurate prognosis in this particular sphere of disease manifestation we should establish first, a true estimate of the nature and extent of the changes which have occurred; in other words, the development of the point to which we have briefly alluded, namely, a complete diagnosis. This should be based, not so much upon the physical signs, which are frequently deceptive and limited in character, but on a consideration of organs far removed from the thoracic cavity, whose relations while not intimate, yet are closely affiliated with the results arising from an interference with the circulatory system in consequence of the cardiac disease. Our thoughts should never be centralized on the heart itself to the exclusion of other considerations, which, even more than any conclusions derived from physical signs, may be of paramount importance in aiding us to arrive at a definite prognosis.

In the second place, we should obtain an accurate and comprehensive history as to the causation of the affection, whether produced by a recurrent or non-recurrent disease, the length of time it has persisted, whether it was recognized subjectively, or became known to the patient during a cursory examination, in the line, for example, of life insurance, points which will bear further elucidation.

In the third place, make a close consideration of any special features characterizing the case in question. This last statement must always appeal to the careful diagnostician, for in the whole range of human maladies, there is probably no class in which the undefined personal equation is of so much importance, as in an accurate estimation of the prognosis of heart disease. Given two patients with, for example, a lesion of the mitral valve with exactly similar signs, and alike as to occupation and environment, and the course of the affection may be entirely different. In one the progress may be inevitably downward, despite the administration of remedies of known efficacy, while in the other, the structural integrity of the cardiac tissue may be preserved far beyond our expectations by appropriate treatment. It is stated, and with truth, that physical signs in heart disease can not, at all times, be relied on as evidence of the nature and extent of existing morbid changes and their tendencies. A too narrow reliance must not be placed on the indications afforded by close physical examination. The stethoscope will discover the "physical sign proper," the murmurs, and enable us to place them in the various classes of valvular defect from which they originate. But here its function ends; it does not inform us what is in reserve for this particular patient. Again, it is fully recognized that the quality of the murmur is no guide to the amount of valvular mischief present. The loudest murmurs frequently accompany inconsequential lesions, while at other times, the effects of a valvular defect may be too grave for the production of any murmur. A loud murmur is generally of less serious import than one which is weak and soft; for the former is indicative of force in the heart's action, while weakness of the heart constitutes the greatest of all dangers. Yet it must not be deduced that a soft or weak murmur necessarily signifies either a failing heart or a greatly damaged valve; still a diminution of the intensity of a murmur, gradual or sudden, may confirm unfavorable indications afforded by symptoms. A long murmur, except in a case of mitral or aortic stenosis, is usually an indication of early and comparatively slight disease and of efficient cardiac action, while a short murmur may be and generally is significant of impending danger. An accent at the beginning of a murmur shows that the valves still act as a check on the reflux of blood.

Each case then must be judged on its own individual merits, and this brings us back to our former contention, namely, that the intrinsic value of organs of similar structure varies in different individuals. Intrinsic strength and vitality are not simple qualities but are complex in character—so complex indeed that their consideration means the investigation not alone of the patient himself, but of his progenitors, the diseases of which they died, their power to overcome certain maladies, and to quickly succumb to others, the whole question of heredity, a topic of such immense ramifications as to be practically forbidden even in part, in a paper of the limited scope which I have the honor of presenting. Let me add in connection with this subject, that we are accustomed to note a hereditary tendency to the decay of certain external structures, such as the hair and teeth; is it not plausible to suppose that the internal and more vital organs

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follow the same course. Decay is hereditary as to cause, as to structure affected, and also, as to time. These are affected by the interaction of the constitution of parents whereby is produced either an accentuation of the tendencies in certain directions, with a diminution of vital powers in the offspring, or an increase of the vital powers, and the production of a corresponding force to maintain the system against the encroachment of disease, or when once disease has invaded the citadel of health, to fortify it against further advancement. A broad and comprehensive view then of all the factors, both recent and remote, both of health and disease, both of an acquired and hereditary character, must be taken before we can build a stable foundation on which the elements of a correct prognosis can be established. This is the only way in which the true gravity of a lesion can be measured, and we should always strive to determine, first, what has been its effect on the heart itself, then how far beyond its influence has extended. If it is found that a murmur is present, no matter at what orifice, and there is no change in that portion of the heart on which the strain is first exercised, and if it is also known that the murmur has existed a sufficient length of time for the effects of increased work to have been manifested, then it follows that the affection is stationary, and may remain so for an indefinite time. On the other hand, if hypertrophy or dilatation, or both exist, their degree is a test of the actual interference with the heart in its work. Due weight is also given to the condition of the pulse, the presence of dyspnea, or palpitation, or syncope, and to any evidence of interference with the pulmonary or systemic circulation, or of the presence of associated disease.

For the past year I have had visiting my clinic a man 25 years of age, a painter by occupation, to whom some five years ago, a most gloomy prognosis was given, after one examination, and that, from the description, not very carefully accomplished. He had been suffering previously to his coming to the clinic with palpitation, dyspnea and syncope, symptoms consequent on lessened power in the left ventricle. There was but very slight edema. The original lesion was a mitral valvulitis of a regurgitant character caused by rheumatic infection and signalized by a loud blowing murmur heard over the apex and conveyed behind. There was present a moderate amount of dilated hypertrophy with the dilatation in excess. These symptoms had demonstrated themselves for years, and the very chronicity of the disease, combined with a careful uranalysis, and a searching investigation into his family history, led me to give a rather favorable prognosis.

Under appropriate treatment the heart has regained much of its lessening strength, the palpitation has disappeared, and his general condition so much improved that he has followed his occupation, that of a painter, for the past six months without intermission. The element of hope generated in this man's heart, by the rapidity with which his subjectively alarming symptoms were overcome, and the constant iteration of the fact that he would not "suddenly drop dead," as had been intimated to him, was not the least among the therapeutic factors which led to his partial recovery.

If at times the physical signs claim more than their share of importance, there are other occasions in which their significance is minimized, except to the skilled observer. This is particularly noted in men who have passed the meridian of life, whose general nutrition is failing, and in whom are to be found an occasional attack of palpitation and syncope accompanying a feeble heart. These are dangerous symptoms and frequently portend a fatal termination from fatty degeneration. There is a third class found among those who are over-indulgent at the table, and whose systems, now and then, are swept by a wave of uric acid, and in whom gouty manifestations have not had sufficient time to develop those permanent changes associated with that disease. At the height of the attack physical examination will disclose an accentuated aortic second sound, accompanied by a passing insufficiency of the aortic valve with high tension and marked arterial pulsation. If one was to be guided solely by these signs, an inaccurate diagnosis would follow, with a very faulty prognosis; for the administration of suitable remedies rapidly divests the situation of its seriousness, and on the following day the vestiges of the storm are to be found in a headache, subsequent to the disappearance of the tension and other exaggerated symptoms.

In illustration let me briefly refer to the following case: Mrs. G., 32 years of age, with an exceptionally good personal and family history, was seized with an attack of acute indigestion, which rapidly developed into so-called "biliousness." She was a very hearty eater, and particularly fond of sauces and condiments. She had experienced previously several attacks of indigestion, but none so severe as the present. Her temperature was 104, pulse 120, bounding in character and with well-marked tension, the carotid pulsation being clearly perceptible. On auscultation, I discovered a marked insufficiency of the aortic segments, in fact a characteristic aortic regurgitation, so far as the physical signs denoted. I prescribed the usual diet and remedies and the following morning these symptoms of "pernicious activity" had entirely disappeared, and careful auscultation since, on different occasions, has failed to reveal anything abnormal about the heart.

The history of the first attack of endocarditis should always be thoroughly appreciated by the practical physician. It determines the length of time the affection has existed, as well as its tendency toward development. When the morbid condition originates in an acute specific disease, such as scarlet fever, and where a recurrence is not probable, the outlook is more favorable than when it arises from rheumatism, where each new attack may mean an extension of the endocarditis, or new foci of disease where previously none existed. It is impossible to determine during an attack of acute endocarditis what the ultimate outcome will be, whether it will rapidly disappear, and leave no recognizable traces of the acute inflammatory action, or continue for years and finally develop the sequelæ of advanced disintegration of cardiac muscular tissue. There can be no question, for it is a fact frequently confirmed by clinical experience, that resolution, with absorption of the inflammatory products, takes place with consequent disappearance of all physical signs. A murmur may persist for years, and gradually disappear, a fact that should have some weight with candidates for life insurance, who are gauged, naturally, by present conditions, the probabilities of the future disappearance of the murmur being altogether too vague, with the present standard of statistical calculation. The distinction which it is usually most important to ascertain, is between lesions originating in acute endocarditis which may be stationary, and possibly, retrogressive, and those produced by chronic, inflammatory, or degenerative changes, which are inevitably progressive.

However, I do not intend at the present moment to deal with the very interesting question of cardiac prognosis as applied to life insurance, but will postpone its consideration for some future occasion.

The more common results of endocarditis are the persistence of the inflammatory products; the young connective tissue develops into fibrous tissue, which as it develops contracts, and the valves becoming more or less thickened, their function is disabled. But while two hearts may be pathologically identical, clinically they may be widely apart. Some hearts are painfully susceptible to renewed developments of endocarditis with every fresh attack of rheumatism. There are others to which the first attack of endocarditis would appear to provide a certain safeguard, for no matter how many times the system may be involved, subsequently to the first invasion of rheumatism, the endocardium appears to be invulnerable.

In some hearts the area of endocardial inflammation involves but a small portion of the valve, and when the acute manifestations have passed away, the further progress of the disease is of an exceedingly chronic character. In others not only the endocardium, but the muscular tissue of the heart itself becomes engaged in the inflammatory process. In this connection it may be noted, that frequently in patients afflicted with inflammatory rheumatism, an increased area of cardiac dulness does not always mean pericarditis, for we have frequently a dilatation of the heart due directly to the rheumatic toxemia. This is especially noticeable in children, and often before the dilatation passes away, there is a recurrence of the rheumatism, further intensifying the original dilatation, and in time producing retrograde changes in the myocardium which gradually terminate in cardiac failure. This class of cases is frequently found with supposed lesions of the mitral valve, generally of a regurgitant character. We are apt to exaggerate its importance by ascribing the dilatation to its influence. But in all probability the greater part of the dilatation resulting from acute rheumatic attacks is not really due to the co-existing mitral regurgitation, but that both dilatation and regurgitation are persisting effects of the acute attack, the former due to its poisonous influences on the cardiac muscle, the latter to the synchronous endocarditis. I remember during my last year at the University and while on temporary service in Bellevue, having such a case come under my observation. In life there was found a loud blowing systolic murmur at the apex, accompanied by chronic dilatation. The patient finally succumbed to pneumonia. When the case came to autopsy, performed by Welch, now of Johns Hopkins, we found to our great surprise the slight damage to the valve was entirely too limited to satisfactorily explain the dilatation. The principal cause here of that condition was undoubtedly the original rheumatic attack. We should be on our guard then in attributing too much importance to the presence of a systolic apex-murmur, from the standpoint of prognosis, for more depends on the size and strength of the heart, the recognizable modification of structure to be sought for in the perversity of function, rather than in the close consideration of an individual symptom, no matter how prominent.

Let us suppose that the patient comes under observation some time after the original attack of endocarditis, it may be months or years, two, five, ten years, and that a murmur still exists indicating that at some time in the past the heart has been hampered in its work. Prognosis, as has been said, then becomes a problem in proportion. If the heart is in a certain state at the end of a certain time, what will be its condition cæteris paribus in six months or in six years. The longer the interval that has elapsed since the acute inflammation, with more certainty can this be predicted. If in the same period one patient has arrived at the stage of dropsical effusion while another has a much enlarged heart which can still, however, overcome the obstacle to its work; and another is unconscious of disease, and there is but slight increase in the hypertrophy, and in yet another no change whatever has occurred, the inference can be drawn with a great amount of certainty, that as it has been in the past, so will it probably be in the future, disease that has advanced will continue to increase, that which has been quiescent will remain so still, and through the whole series the foundation of prognosis is time, and the changes it has wrought. The question as to sudden death is almost invariably asked by those who are personally aware of heart disease, and it is the duty and high privilege of the physician to be able to relieve the mind of his patient, that in all cases of valvular diseases, with one exception, that of aortic regurgitation, sudden death is a contingency which may practically be left out of consideration. Apart from this liability, aortic insufficiency is much more serious than constriction at the same orifice, because of the tendency to over-distension of the ventricle during diastole. In stenosis the arteries are scantily filled, and anemia of the brain is apt to develop on the slightest exertion. Those suffering from a single valvular lesion often do better so far as immediate relief is concerned, by having an incompetency of another valve added to that already existing. Thus in aortic regurgitation there is less liability, for the time being, to sudden death if there is a subsequent mitral incompetency developed. The regurgitation through the mitral orifice during the ventricular systole lessens the amount of blood passing into the aorta and therefore the force which distends the ventricle during the succeeding diastole.

In an analysis of 400 cases in which on post-mortem examination it was found the heart had undergone marked changes, in 151 there was definite valvular stenosis, without sudden death in a single instance, in the sense of the sufferer being overtaken by death while in apparent health; of aortic insufficiency there were 38 cases, 3 were brought to the hospital dead, a fourth died suddenly in the hospital; in 6 more the final symptoms came on abruptly and were rapidly fatal. Of 53 cases of mitral stenosis, only 1 was brought in dead. Those of mitral insufficiency or regurgitation were 49 in number; of these 2 may be said to have died suddenly, but both had serious symptoms and were under treatment in the hospital at the time, and in both the pericardium was adherent; in 3 more a sudden attack of dyspnea set in and proved rapidly fatal. Under the head of hypertrophy and dilatation only 2 sudden deaths were directly attributable to the state of the heart. When we come to fatty degeneration, the story is very different. In 9 out of 38 cases the termination was sudden; it is in effect to fatty degeneration that heart disease owes much of its terror of sudden death. It is the accumulation of years of insidious changes whose manifestations are in the beginning quite imperceptible, but they have a tendency to grow more intense from the persistence of the original cause. The nutrition of

the heart in these cases is markedly defective, and, unfortunately, in the earlier stages not recognizable, though a pulse of low tension and irregular with an occasional attack of dyspnea should put us on our guard, particularly in those who have passed the meridian of life. Of course, it is, I trust, fully understood that I do not refer to the acute manifestations of fatty degeneration, which may be found in idiopathic anemia, or in the course of phosphorous poisoning, but to cardiac degeneration of a fatty character, as we generally understand the disease. Personally, I do not believe this terrible disease exists at all in the proportion to which it attains in the mind of the physician, and I say the mind of the physician advisedly, for there it has its existence oftentimes, rather than in the heart of the patient. It is not an easy matter to make an accurate diagnosis of fatty degeneration of the cardiac muscular tissue, though it would seem as if some physicians have an intuitive perception of the changes taking place after a superficial examination. It should also be remembered that in autopsies where frequently fatty degeneration is supposed to exist, it is really rapid decomposition which produces an appearance of the pathological changes of that malady in the muscular fibers of the heart. I have dwelt on this affection at some length, because I have heard from others of its frequency. Of 255 cases of heart disease of all kinds which we have treated in our clinics in St. Joseph's Hospital, at the West Side German Dispensary of the New York School of Clinical Medicine, and in the Outdoor Department of St. Vincent's Hospital, as well as in private practice, during the past two years and a half, I find but 2 cases of fatty degeneration recorded, 1 occurring in a male, 64 years of age, the other in a man of 82; the symptoms at least would make a clinical diagnosis of the disease possible.

Of the aortic lesions there were aortic insufficiency 18, mitral insufficiency 95, aortic insufficiency and stenosis 45, mitral insufficiency and stenosis 74, 1 case of lesion of pulmonary valve, 6 of pure aortic stenosis and 14 of pure mitral constriction. Lesions of the right side of the heart are relatively rare, and they can scarcely be considered independently of affections of the heart or of the lungs.

It may be interesting in this connection to mention that mitral stenosis is much more frequently found in women than in men. Out of 53 cases, 38 were females, the balance in males. On the other hand, aortic insufficiency is more frequently met with in men. Out of 36 cases, 30 were in males, 6 females. I am also led to believe from my researches into the territory of cardiac diseases, as well as from personal observation, that pure mitral stenosis is a comparatively rare affection, and the same statement, with perhaps somewhat milder limitations, may be applied to pure aortic stenosis. In an analysis of 33 cases with pure mitral disease, the average age was 29, while the average age of 14 patients in whom the aortic valves were affected either with or without mitral disease was 41. This is a further illustration of the well-known fact that mitral lesions occur early in life as a result of endocarditis, while aortic lesions are found later, frequently the result of atheroma. In 27 out of 50 cases, there was a clear rheumatic history. In 5 cases the rheumatism was found associated with scarlet fever. In 23 cases there was no history, but this does not invalidate the supposition that rheumatism was the original factor, as we are apt to forget the diseases of infancy and early childhood.

Different affections of the valves have, inherently and mechanically, different degrees of tendency to the production of structural alteration. The time of life at which the lesion of the valve takes place is of great significance, a given valvular affection established in youth is apt to be survived with great hypertrophy, though it must not be overlooked that valvular disease appears to be more serious in early childhood than a few years later. The heart can not keep pace with the active growth of this period of life, and answer to the demands of hypertrophy, in whose development time is an important factor, as well as the mode of living.

The period after the occurrence of the valvular change, at which active exercise was undertaken, will have great influence on the condition of the cardiac walls and cavities.

In aortic obstruction there must be either increase in the propulsive power of the heart or diminished rate of circulation. The increased power is gained by hypertrophy, and I regard a direct aortic murmur accompanied by hypertrophy to be more serious than when the combination is not found, because in the former case the mechanical difficulty is sufficiently great to call for cardiac development. On the other hand, in aortic insufficiency a certain amount of blood returns into the ventricle at each systole, an increase in the force of the contracting power would not overcome this, but an increase in the capacity of the left ventricle brings about the desired result and thus helps to compensate for the regurgitation. Dilatation, which under all other conditions is injurious, is thus actually a compensatory change in aortic incompetency; it is totally different from the dilatation which is now and then met with as the result of structural weakness or degeneracy of the cardiac walls. There is also a demand for the exercise of force in the additional quantity of blood to be pumped at each systole, so in addition to the dilatation we must have hypertrophy. The case is different with mitral regurgitation. Here we do not find the same degree of dilatation or hypertrophy in the left ventricle, while in mitral stenosis there may be actual contraction. It is in aortic incompetency that the extremes of dilatation and hypertrophy of the left ventricle are met with, and they are apt to be the measure of the regurgitation in the absence of symptoms, such as breathlessness on slight exertion, faltering action of the heart, with tendency to faintness and vertigo.

In advanced life mitral regurgitation is common without actual lesions of the valves, and may come on suddenly after illness or overstrain, or approach insidiously. Mitral stenosis is the valvular affection which independently of inflammation or ulceration most frequently gives rise to arterial embolism.

Mitral stenosis is the gravest of all cardiac lesions, and especially if it develops after middle life. So far as the physiognomy of mitral stenosis is concerned, it is very deceptive, the subject of this affection frequently presenting every appearance of perfect health. Let me close with this interesting aspect of heart disease by stating, that the obliteration of the second sound is an element of pronounced gravity.

With aortic regurgitation is frequently associated angina pectoris, that terrible disease which Balfour has described, "as if a mailed hand grasped the chest in the cardiac region and squirted through its fingers flashes of excruciating agony," a disease in which the cumulative tortures of a thousand deaths are concen-

trated in one. The patient liable to such seizures is constantly walking on the edge of a precipice, not knowing the moment when he will fall into the depths below. It can not be said to be a disease-entity, as it is associated with so many conditions which give rise to abnormal distension of the cavities and consequent stretching of the nerve fibrils beneath the endocardium. The prognosis of true angina is extremely uncertain, and the wise physician will ever be chary of expressing a definite opinion.

CONCLUSIONS.

1. When a heart murmur is discovered, do not give a gloomy prognosis on that simple fact alone; consider the condition of the cardiac walls, the probable length of time the lesion has existed, the presence of dilatation or hypertrophy, or both combined. The occupation and temperament of the patient are very essential factors in the prognosis. Each individual is a law unto himself, and though certain general principles may be established as a basis on which to build a working prognosis, remember we have no real means of recognizing the strength of the individual heart except its power of resistance against the poisonous effects of alcohol and tobacco or the inroads of the acute or chronic diseases, or the stress of laborious occupations, or the debilitating influence of prolonged exposure. The diagnosis should be complete, the prognosis tentative. Or, as a distinguished English colleague has said: "Give your prognosis on the best suppositions, treat your patient on the worst." (Allbutt.)

2. Remember that murmurs do not invariably mean endocarditis, and a prognosis based simply on the presence of a murmur would be rank injustice to the patient, and demonstrate incapacity on the part of the physician. As a skilled observer has well stated: "With an apex-beat in the normal situation, and regular in rhythm, the auscultatory phenomena may be practically disregarded."

3. To those of us who are interested in life-insurance work, this is of great importance. We wish to be just to the applicant, and at the same time, do our duty toward the company. The fact that a man has a murmur at the apex, of which he is entirely unconscious, whose heart is doing its work thoroughly despite the existence of the lesion, whose occupation is not of an adversely laborious character, who has passed that period of life when acute rheumatic infection is liable to stimulate into fresh and renewed activity the latent inflammatory products of an ancient endocarditis should be factors to guide our judgment as to the probabilities of the future and prompt us in recommending for him a policy commensurate with the degree of cardiac inefficiency.

It should not be forgotten in this connection that a presystolic murmur does not always indicate the most serious of all lesions, viz., a mitral stenosis, nor has a so-called musical apex-murmur any particular significance in prognosis, indicating, as it does, the passage of a stream of blood through a small aperture in the segment of a valve.

4. From the standpoint of longevity, aortic stenosis is a favorable lesion, and the writer must differ from some authors who state that it appears for the most part after middle life. It is found at that period when a man should be at the highest point of physical capability, between 30 and 50. It is true that it is frequently present as part of a general decay, and then develops in consequence of atheromatous changes taking place throughout the system, but it is more frequently present than has hitherto been suspected without such pathological manifestations being present.

5. Do not inform a young man between 18 and 25 that he has heart disease because you discover some hypertrophy with no complications, the result in most instances of active exercise. The writer knows of one individual whose heart is "athletic," a splendid specimen of manhood whose existence was embittered by the thought of heart disease communicated by a careless and injudicious physician. In this condition, it is, of course, understood that a careful consideration will be given to a large number of causes, independently of diseases within the heart itself, which may produce hypertrophy, for example, that typical enlargement of the heart co-existing with an interstitial nephritis.

Never hesitate to ask a patient to return for further examination, as the condition then may be entirely different from the first examination. There are more snap "diagnoses" made in the realm of cardiac affections than in the study of diseases in any other portion of the body.

DISCUSSION ON PAPERS OF DRS. SOLIS-COHEN, BISHOP AND MORRISSEY.

DR. FRANK BILLINGS, Chicago—These papers cover so much ground and there are so many who would like to discuss them that I will limit my remarks to a few subjects only. I desire to say something concerning acute endocarditis. This is a disease which is usually recognized, especially when classic. When acute in manifestation it presents many of the phenomena of the typhoid state and is accompanied by many definite anatomical lesions. But it is not always so; acute endocarditis, or subacute endocarditis, especially if of the vegetative or ulcerative kind, is not so easily recognized. All of you who have followed such cases through the hospital and to the autopsy table have recognized that fact, I believe. It has only been recently in the wards of the County Hospital that I have seen two cases of this kind. A Russian, 32 years of age, came into the ward suffering from anemia, with the consequent weakness, with an irregular type of fever. The anemia was apparently secondary and was very marked. The red cells fell as low as 2,000,000 to the cubic millimeter, and the hemoglobin to 30 per cent. Associated with this was a murmur over the heart at its base; this murmur was characteristic of aortic regurgitation. Under rest treatment, quiet in bed, the patient improved and was finally allowed to get up. In two weeks a relapse occurred; an examination showed, in addition to the murmur referred to, an aggravation of the anemia and there were microscopic amounts of blood in the urine. The spleen was palpable. The blood-pressure was low. Then for the first time I suspected the possibility of an acute endocarditis. The man died suddenly from hemiplegia. The post-mortem revealed a subdural hemorrhage and marked endocarditis involving the aoritic valve. Another thing which we suspect when there is an ulcerative endocarditis, with a palpable and perhaps tender spleen, with blood in the urine, is multiple infarcts, but there was none in this instance. The hematuria and palpable spleen were due to a passive hyperemia. Recently there died in the hospital a patient who was in my care for a long time, but, who was under the care of Dr. Preble at the time of death. This patient lived for months with an ulcerative endocarditis, and emboli were constantly being sown from the heart. The patient was always clear neutrally. The fever was not high and usually irregular in type. These two cases illustrate the fact that ulcerative endocarditis is not always classical in its symptomatology, and that it is sometimes difficult to recognize. In the Presbyterian Hospital recently was an Italian, unable to speak English, who came in in a typhoid state. The temperature ran on the second day to 105, but it suddenly fell to normal. The blood was examined for typhoid fever, for malaria, etc., but ordinary search did not reveal the source of the disease. The heart was weak and the blood-pressure was low. Associated with this was a murmur heard part of the time only over the heart. There was a

marked accentuation of the second aortic sound. Because of the low blood-pressure, I made a probable diagnosis of an ulcerative endocarditis. The patient died, and the post-mortem revealed an endocarditis and incompetency of the aortic valves; and yet there was an accentuation of the second aortic sound. This patient was in the typhoid state, with a low blood-pressure and had, part of the time, a murmur over the heart. Ulcerative endocarditis is a disease difficult to recognize and the general symptoms or condition are quite as important as the local signs. Among the local signs is a marked anemia, which occurs in those cases due to a toxemia. Another important sign is the low blood-pressure.

The next subject that I should like to refer to is not valvular lesions but myocarditis. This occurs in all valvular lesions sooner or later, but I shall not discuss that which occurs in valvular lesions. It also occurs in many toxemias and in all infectious disorders. It may be due to severe typhoid fever, and to pneumonia, and is recognized because of the weakness and failure of the heart. Myocarditis may be due to chronic toxemias, which are, in turn, due to gouty conditions and auto-intoxication. These cases of myocarditis present conditions which do not make the diagnosis easy. There are often no local signs. Such patients present nervous phenomena; they are very irritable. The business man changes in his disposition; instead of being earnest he may be frivolous, or he may not be able to grasp important business situations as he once did; or, instead of his mental powers being disturbed, there may be loss of digestive power. The diagnosis may be made of gastric disorder dependent on a weak heart. These things all become aggravated in a short time and the patient complains more after eating, when he has some fullness about the epigastrium, or some dyspnea. The dyspnea later increases and occurs when he is talking business or when excited. The compression then becomes actual pain. The pulse changes in its character and, perhaps, may not be more rapid, but slower. Congestions occur easily and there is associated malnutrition. Finally, dilatation occurs and associated with this all the phenomena that go with heart disease. The practical point is that, in these cases, especially of myocarditis, they require early attention. Frequently we can remove the cause and restore much of the heart power.

DR. DELANCEY ROCHESTER, Buffalo—The statement has been made by Dr. Billings, and I understood that Dr. Davis also made it, that acute ulcerative endocarditis was more frequently recognizable than not. I think it is most difficult to recognize. I think it is more frequently mistaken than any other form of infectious disease. I state this on authority and on personal experience. My personal experience has extended over fifteen years, and has occurred in three hospitals. During this time there were five cases of acute ulcerative endocarditis under different observers, that were not diagnosed until after death. The diagnoses in these patients were various. That the diagnosis may be made by careful study of each case is possible, and therefore these cases should be carefully investigated. There is one case that illustrates this fact; this patient was brought into the hospital, the General Hospital of Buffalo, on the surgical side for operation for an appendicitis. She was operated on and the appendix, although there was nothing diseased about it, was removed. The chief complaint was pain in the abdomen. There was a certain amount of fever which did not subside after the operation. She was removed to the medical side. The abdomen was distended and she still complained of pain in it. Careful manipulation and study of the case indicated a point of pain on the left side and in the upper zone, but toward the left chest; yet, nothing could be found beyond that but a distention of the bowels. This was relieved by the use of asafetida per rectum. The fever persisted. A careful study of the blood was made, typhoid fever having been suspected. There was no Widal reaction. There was a large amount of indican in the urine. Ehrlich's reaction was thought to be present, although there was some doubt about it. There was, however, on examination a marked leucocytosis. When we can find a very marked leucocytosis, of considerable degree, with no evidence of localized collections of pus, we should suspect the presence of ulcerative endocarditis. So far as an examination of the heart was concerned there was no murmur whatever and no embolism occurring in any part of the body. The patient died undiagnosed, and the autopsy showed an ulceration on the ventricular side of the mitral valve, which had penetrated through into the other ventricle.

I believe that changes in the myocardium are exceedingly serious and are frequently overlooked. In chronic myocarditis we should take into consideration the general condition of the patient more than the local condition, so far as the heart is concerned; this means the condition of the pulse, the general nutrition of the patient, the condition of the arteries particularly, and also the condition of the heart, of which we may have more or less dilatation, more or less enlargement, and weakness of the sounds. So far as the various valvular lesions are concerned, two are serious, i. e., aortic insufficiency and mitral stenosis; of these aortic insufficiency is the more serious. The diagnosis of this condition depends on the diastolic murmur. Whenever I hear a diastolic murmur I feel that the case is always serious. Of course, in mitral stenosis the murmur may be decidedly diastolic. Right here, in regard to mitral stenosis, I wish to state that a presystolic murmur is less serious prognostically than a rough diastolic murmur heard in the same place. But, the conditions on which the prognostic value in these valvular diseases depends are not so much the local conditions of the heart as the condition of the general circulation. The condition of the arteries particularly is of great prognostic value; the more pronounced the changes there the worse prognosis must we give. Dr. Morrissey spoke of murmurs that had existed for a number of years; in my opinion a murmur that has existed a number of years is an organic murmur due usually to change in the ability of the valve to close the orifice; either a decided change in the valve itself, or the myocardium. If it has existed for several years and then disappears it is a much more serious matter than if it continued to exist; it shows a more marked weakening of the muscle itself.

DR. JAMES B. HERRICK, Chicago—The tendency to-day is to pay more attention to the muscle of the heart than to the valves, and I will place myself on the side of those who so practice. The time has passed also, when we make a diagnosis of lesions of the heart merely on murmurs that may exist. We have to take into consideration the secondary changes that follow each valvular lesion; the size of the heart; the alteration in the aortic and pulmonic tones; the condition of the pulse, both as to volume, tension and irregularity; the peripheral tone. All these things should be taken into consideration before determining as to the nature of the valvular lesion, whether it is organic or due to dilatation of the heart, or whether it is an accidental or functional murmur. More than that, we can not rest content with making a diagnosis of valvular lesion, but we must go further and ask what is the condition of the heart muscle. This is very important, because, as we have learned from the several papers read and the experiences related, such patients may live with apparently serious valvular lesions for years provided the muscle of the heart is capable of doing its work. This was impressed on me when I was called a few years ago to see a man, 67 years of age. As I was listening to his heart he said: "I know I have heart disease; Skoda told me so, but said with care I might live to be an old man." He had a valvular lesion which more than thirty-seven years before had been recognized by Skoda. In the clinic I recently saw and presented a case of aortic stenosis where the history dates back twenty-five years and only now is compensation beginning to fail. The principal question is how long may the muscle of the heart do its work, and what is the condition of the myocardium?

I certainly find it difficult in a case of acute rheumatism to speak positively of the condition of the myocardium. If I understood Dr. Rochester correctly, he stated that in cases of acute rheumatism he can diagnose an acute myocarditis by the endocardial murmur. It seems to me there is great difficulty in diagnosing acute myocarditis either in the course of an acute rheumatism or other acute infectious disease. Perhaps here we use different terms. What one would call myocarditis another would possibly call acute parenchymatous de-

generation of the heart. There may justly be some difference of opinion as to what is the significance of the murmur in acute articular rheumatism, whether it is a hemic or an accidental murmur, the murmur of an acute endocarditis or of a relatively incompetent valve, or of a true myocarditis.

I wish to mention, in connection with the diagnosis of chronic myocarditis, the importance of recognizing the etiological factors. And here I emphasize one fact already dwelt on, i. e., the importance of heredity. If we go back into the history of many of these cases we shall find striking instances of this, shown especially in the effects of sclerosis of the blood-vessels, in the early deaths from angina, cerebral hemorrhage, renal disease, aneurysm, etc. The symptoms in these cases of chronic myocarditis may be most pronounced, but occasionally cases are met with where, without preceding symptoms, there is sudden death. I have seen a man of 60 years die in his first attack of angina where there had been nothing previously to indicate the existence of heart disease.

In regard to the treatment of myocarditis there are two points to which I wish to call attention. Of the greatest importance is rest. And secondly, when in myocarditis dilatation has occurred, when all the evidences of marked incompetency are present, when death seems to be imminent, the patient cyanotic, with edema of the lower extremities, etc., bleeding is of great value. This treatment, with rest, will frequently restore temporarily the integrity of the heart.

DR. BERTRAM W. SIPPY, Chicago—Dr. Rochester has made the point that a leucocytosis occurring in an obscure case in which malignant endocarditis was suspected, was of great value in the diagnosis of that condition. A few years ago, it was supposed that leucocytosis occurred in all septic conditions; in the absence of an increased number of leucocytes, septicemia was not to be diagnosed. The more the condition leucocytosis is studied, the less constant appears to be its relation to the various infective processes. It is fairly well established that with the exception of typhoid fever, malaria, miliary tuberculosis and measles, leucocytosis is likely to be present in all acute infections. Sepsis is usually accompanied by a well-marked leucocytosis. Experience has shown, however, that even the severest sepsis may exist without an increase in the number of leucocytes. It has long been known that puerperal fever may be unaccompanied by leucocytosis. The same seems to be especially true of malignant endocarditis. Neusser, of Vienna, was probably the first to note that malignant endocarditis was prone to run its course without leucocytosis. Previous to 1895, he had observed six cases in which leucocytosis was absent. At that time, he was inclined to look upon the absence of leucocytosis as one of the characteristics of the disease. Since then I have observed four cases in which the leucocytes were not increased. A rapid reduction in the number of red blood-corpuscles, the presence of normoblasts and marked poikilocytosis are commonly found in malignant endocarditis.

DR. JUDSON DALAND, Philadelphia—During the winter I had the opportunity of studying a case of ulcerative endocarditis, which was also seen by Dr. Da Costa, who in this particular case, attached much importance to the presence of leucocytosis, the leucocytes numbering 40,000 to the cubic millimeter. It seems to me, however, that this sign will probably not prove to be of very great value excepting in ulcerative endocarditis unassociated with fever, as most cases show intermittent fever. The leucocytosis present could be ascribed to this cause alone, irrespective of what may have produced it. I was extremely interested in the case reported by Dr. Davis for the reason that he believed the source of infection to be through the intestinal tract. About one year ago I saw an instance where the disease had existed for a period of eight months; I saw the case about one month before death. The man was known to have been without the disease for years. Severe intestinal symptoms suddenly developed, after which the characteristic intermittent fever of ulcerative endocarditis appeared. It continued until death occurred eight months afterward. In that case we employed the antistreptococcic serum, first injecting 2.5 c.c., which was followed by a slight reduction of fever. A second injection of 5 c.c. was followed by distinct evidence of weakness. After this 10 c.c. were used, which was followed by such marked evidences of collapse that it looked as though the man would die. The serum seems to be of value in certain cases of ulcerative endocarditis, but it should not be administered in those cases which have advanced so far that extreme weakness has developed, as the serum is itself able to bring about fatal collapse even in as small a quantity as 10 c.c. I was much impressed with the references made in regard to the prognosis in heart disease. I recall a case of aneurysm of the heart occurring in a man apparently in perfect health until twenty hours before his death. This man had no symptoms of cardiac disease and was insured by an insurance company as a good risk. The autopsy showed extensive fibroid changes occupying the interventricular septal region, covering an area about the size of a silver half dollar. Further examination showed extensive atheroma of the coronary arteries. The cause of death was a thrombus in the right coronary artery. The case reported by Dr. Billings was symptomatically a counterpart of one that occurred in the University Hospital, where there was a marked anemia, there being less than 2,000,000 red cells to the cubic millimeter and a systolic murmur over the apex; the recurring pyrexia brought up the possibility of an ulcerative endocarditis. The autopsy, however, showed no ulcerative endocarditis, but pernicious anemia.

DR. H. M. FUSSEL, Philadelphia—Other signs than cardiac murmurs are important in making a diagnosis of heart lesions. There is no question that students, and many men as soon as they leave college, believe that there can be no heart disease unless there are murmurs present; they also believe that unless there are heart murmurs present the case does not admit of any treatment. Of course, this is an error. The most common error made is that regarding the systolic murmurs at the base of the heart; it is almost invariably the case that when a student detects a systolic murmur at the base of the heart, he considers the individual suffering from an aortic stenosis. Of course, this is far from the fact. It is well known that serious heart lesions may exist without the presence of any murmur. A case occurred in my practice some years ago in which a man suffered from cardiac disease without symptoms of loss of compensation; during three or four years he was examined frequently and nothing was found in the way of a murmur. At the time of his death there was a dilatation so great that five fingers were admitted in the orifice; and yet there was no murmur.

The points in the treatment should be based on the condition of the pulse, whether regular, feeble, rapid or slow. Then one should consider the size of the heart, and I am sure many neglect to outline this organ. Any heart that extends from the sternum on the right to a point beyond the nipple on the left is certainly an abnormal size of the heart. The character of the first sound is very important. In cases of dilatation the first sound loses its muscular element and is very much like the second sound. The absence of the apex-beat frequently means loss of power in the heart muscle. Any accentuation of the first sound, a curious sharp short sound, is extremely indicative of stenosis of the mitral orifice. Regarding the point of Dr. Cohen about the so-called dilatation of the veins about the costal margins, I have often been asked by students what it means, and I always answer I do not know. I do not believe that it is a valuable sign in cardiac disease.

DR. ROBERT H. BABCOCK, Chicago—I desire to add a word concerning the importance of the myocardial changes in heart disease. The profession has paid too much attention to the mere presence of murmurs as indicative of endocardial lesions, and shows a tendency to forget the condition of the myocardium. The physician is apt also to forget the condition of the myocardium in rheumatism. The following figures are certainly very instructive in this regard. Dr. Pointon examined 154 cases of deaths occurring in children from rheumatic heart disease, and he found, among these 34 instances of myocardial changes; in 13 cases the heart muscle was soft and pale; in 4 cases there was fatty degeneration; in 8 instances the myocardium was described as fibroid in character. Furthermore, in

92 of these cases there was marked general cardiac dilatation. These figures are exceedingly important as bearing on the prognosis of rheumatic heart disease in children.

There is nothing more difficult in the line of heart disease than to make a prognosis. I often say it is like betting on a horse-race; yet by nothing so much as by his ability to make a correct prognosis is a physician's experience shown. Leaving out of consideration all extrinsic conditions and limiting ourselves to a consideration of the changes in the heart, whether in valvular disease or not, I think we must all admit that the condition of the myocardium influences the course of any given cardiac disease. Take aortic regurgitation; there is a wide difference in aortic insufficiency of atheromatous origin from that of endocardial origin, or an aortic regurgitation developing as a result of endocarditis at a period of life when myocardial degeneration is already present as shown by the condition of the peripheral arteries. It is in these cases particularly that the career is short and death is sudden. So it is with atheromatous mitral lesions. We know when the mitral disease is the result of a sclerotic process that these are the cases in which the prognosis is grave and there is little hope of re-establishing compensation when once it is broken. This is contrary to the experience found in mitral disease in the young when due to an endocarditis; in such compensation may be frequently broken and restored, in part at least. It is not so when the myocardium is diseased.

DR. JOHN A. WITHERSPOON, Nashville, Tenn.—It is extremely rare in my experience that an aortic stenosis kills by degeneration of the heart muscle itself; it is due to a degeneration in the blood-vessel walls, usually those in the brain, rupture causing death. Along with this we may have valve lesions with murmurs, but with the heart muscle little affected; nor does the condition of the valves of the heart affect the prognosis so long as the heart muscle is capable of performing its function. Regarding the treatment of organic heart lesions, unless compensation is broken, it is malpractice to treat that heart, with medicines, like digitalis. Hygienic care and strychnin are useful.

DR. S. SOLIS-COHEN, Philadelphia—Dr. Fussell doubts my explanation of the costal fringe. I distinctly said and now repeat that this sign is not infallible. I have seen it in many cases in which I could find no heart lesion. Nevertheless it is one of those signs leading one to suspect that there may be some undemonstrable disease of the myocardium. If it occur in a patient who has a persistent enlargement of the liver, or who shows a tendency to recurrent enlargement of the liver, we are certainly justified in considering the patient at least a cardiac suspect. In regard to murmurs, valvular murmurs are not the only organic ones. We may have a myocardial organic murmur, or a myocardial functional murmur. Disease of the papillary muscle, as well as disease of the muscular fibers of the ventricle or the auricle, may mechanically interfere with the closure of the valves and give rise to the phenomena of insufficiencies.

DR. LOUIS FAUGERES BISHOP, New York City—In regard to the question of loud murmurs, I wish to allude to a case of my own in which an autopsy was performed a short time ago. A patient was brought into the hospital and promptly died. There was a loud murmur present but the valves were normal; there was simply dilatation. Dr. William H. Thompson, of New York, reported a case in which there was an extraordinary murmur over the heart due to dilatation occurring in a muscular man from sudden exertion. It seems to be true that loud murmurs do occur from dilatations. It is not always possible to make a diagnosis before death in malignant endocarditis. I would refer to a case seen last winter in which diagnosis was obscure but where I believe there was septic disease in which the kidneys had participated. The conditions were very obscure. That patient had a murmur, but the symptoms were never prominent. At the autopsy I found the valves almost destroyed. This patient had been bed-ridden, kept perfectly quiet, for which reason the murmurs were not marked.

SURGICAL ASEPSIS OF THE URETHRA AND BLADDER.

WITH DEMONSTRATION OF A DEVICE FOR THE PURPOSE.*

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In view of the impossibility of scrubbing, soap-poulticing and rescrubbing the urinary tract; of the infeasibility of washing it with ether, alcohol, or antiseptics sufficiently strong to kill bacteria, it must be confessed that efforts to obtain surgical asepsis of this region remain still within the realm of remote hope. The problem, therefore, is how we may attain, as near as possible, an approach to asepsis of the field of operation. Until about seven years ago, surgeons did their best to this end with urinary diluents, with the administration of drugs by the mouth, in the hope that the antiseptics therein contained would be carried through the bladder and urethra, or that in the changes the drugs would undergo in the organism, urinary antiseptics might be evolved; and by washings of the urethra and bladder with mild antiseptics by means of capacious syringes. These methods have their evident shortcomings.

Urinary diluents and drugs per os, even if they could fully perform all that is wished of them, would no more than act intermittently, i. e., only at the moments of urination. But as they can not, except during instants, unfold the urethra, they can not at the very best exercise more than a superficial and evanescent local effect. I would not, however, proclaim them useless; on the contrary, they are valuable adjuvants to approaching asepsis, so necessary a concomitant to instrumental ingression.

The topical efforts made to cleanse the urethra by means of even large syringes, are necessarily limited by the mechanical difficulties that beset such work. The irregularities of even the normal urethra place its expansions behind normal or abnormal coarctations beyond the effective reach of flushings which can not be otherwise than of irregular force when administered by a piston syringe. Besides, the inevitable intermittence in these flushings materially curtails their effectiveness. Manifestly, then, the local endeavors required a method whereby these and other self-evident defects could be overcome.

As far as I can learn from a most thorough search in literature, it was my good fortune to be the first to propose, seven years ago, that all invasions of the urethra and bladder should be preceded and, whenever practicable, followed, by copious irrigations, at least of the urethra. It would be an insult to surgical intelligence if I claimed better asepsis for my instruments and hands than others attain, and it would be beyond the province of this effort to discuss the etiologic factors of urethral fever. The experience of the past seven years, however, during which I have never omitted irrigations after instrumentations, has fully rewarded me and those who follow the method I proposed. The conjoined experiences are not small in number and their outcome is that there has not been a single case of urethral fever to report. Among these were patients who before had been treated by men whose scientific

* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

attainments and skill I unhesitatingly envy. Not a few of these patients warned me that even an exploration of the anterior urethra, most delicately conducted by the finest possible instruments, was invariably followed by fever. I irrigated their urethras before and after instrumentation, and not the slightest elevation of temperature resulted.

These irrigations hitherto were performed by means of the apparatus I devised for the purpose and which several excellent authors have complicated since then. I can not but applaud the compliment so bestowed. If one or another forgot that I originated the device, I am sure the memory of my priority slipped away in the enthusiasm for good surgical work.

But the urethral and intravesical irrigator had its limitations. Although much smaller and far easier of manipulation than the irrigators employed before it was devised, its use was necessarily confined to cases treated in the office. In this regard I have no regret concerning its efficacy. But time and experience have shown the need of another, much smaller, irrigator, that would occupy but a limited space in the instrument bag. Work, since June, 1899, on these requirements, together with those of simple construction, facile sterilization and easy manipulation, resulted in the auto-irrigator. Its essential features are a modified douche-bag, made in one piece with a tube 4 feet long, terminating in a shield and nozzle, the special finish of whose tip can not injure the most exquisitely inflamed meatus.

Fig. 1.—Irrigation in the standing posture.

The device throughout is so simple that the technique of its employment can not merit even a moment's description. As it has, however, other uses, and very important ones, I shall take the privilege of adding them to this paper when presenting it for publication. I may say now, though, that besides preparation of the urethra for instrumentation, this device proves of value in the treatment of such patients with gonorrhea as can not, for any reason, visit the physician as often as is necessary for systematic irrigations. It then serves as a substitute for such office-visits as can not be made. But I insist on being correctly understood by those who do not know me, that *this device is by no means intended to transfer to the patient the treatment of so dangerous a disease as gonorrhea.*

Another use in which the auto-irrigator proves convenient and effective is in those washings of the bladder and urethra which the physician may prescribe for patients who are obliged to catheterize themselves. While it would in every sense be better for the patient if this service were rendered by professional hands, it manifestly is impossible that prostatics be visited at least four times daily throughout catheter-life. These can be easily instructed to use the auto-irrigator, thus preventing the septic crimes that such patients continually commit upon themselves.[1]

To sum up the salient conclusions on the subject, I submit: 1. Perfect asepsis of the urethra can not be obtained by our present methods. 2. Urinary diluents and antiseptics by the mouth are limited in their action. 3. Washings with piston syringes, however large, must necessarily fall short of their purpose. 4. Asepsis of instruments and hands does not suffice to prevent urethral fever. 5. Urethral fever does not occur when instrumentation is preceded and followed by irrigations. 6. The irrigator I devised seven years ago and materially simplified since, effectively does the work required in the office. 7. The auto-irrigator, first exhibited before the Genito-Urinary Section of the New York Academy of Medicine at its meeting of March, 1900, and more fully demonstrated here to-day, enables the surgeon to perform urethral and intravesical irrigations anywhere. 8. The auto-irrigator is a useful adjuvant in the treatment of such gonorrheics as can not visit the physician with sufficient frequency. 9. The auto-irrigator offers the simplest method of preventing sepsis in those obliged to catheterize themselves.

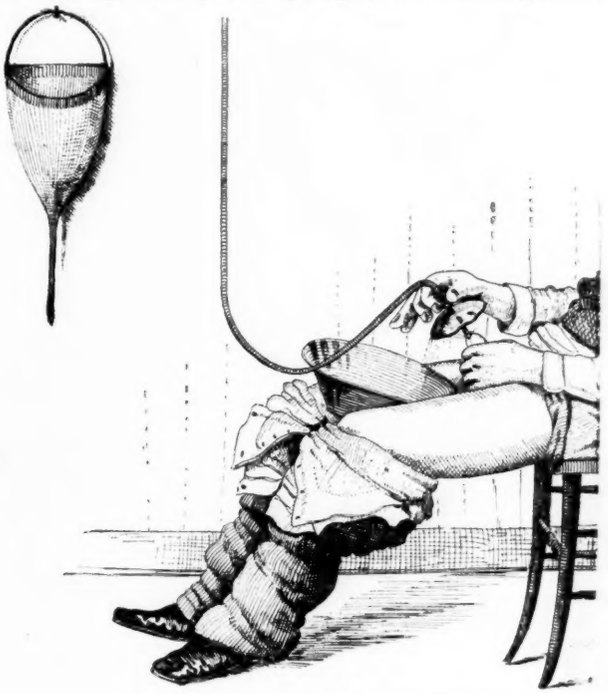

Fig. 2.—Irrigation in the sitting posture.

The foregoing brief synopsis of the purely surgical considerations of the use of auto-irrigations, suffices to describe its purposes before the Section. For the convenience of general practitioners, I beg to submit more

1 The auto-irrigator is made by the Miller Rubber Manufacturing Company, Akron, Ohio.

detailed discussion of the subject, especially calculated for those colleagues who have had no special training in the cases in which it is applicable.

Experience has shown that most cases of gonorrhea require irrigations twice daily for the first four days, then once daily for two or three days, and after that twice daily for three days. Those who obtain the most brilliant results owe them to the care and precision of their work. However enthusiastic they may be in consequence of such success, all must acknowledge that the necessarily frequent treatments are occasionally infeasible. Among the elements responsible for this are:

1. *The Patient's Occupation.*—Some men are prevented by their work from going to the physician's office twice daily, and some, because of their business, can not visit a physician even daily.

2. *The Patient's Means.*—Many men are unfortunately so situated financially that they can not pay for professional services twice daily, but having salaried appointments are not entitled to gratuitous services. Moreover, the hours at dispensaries are likely to be such that if men attended them they would lose their positions.

Fig. 3.—Preliminary washing.

3. *The Physician's Work.*—Busy general practitioners are exposed to being called from their offices at any time and thus are prevented from keeping appointments with their gonorrheal patients. If general practitioners referred such cases, which they are perfectly competent to treat, to a colleague, even if he is a genito-urinary specialist, their reputation would suffer, unjustly certainly, but none the less truly. Moreover, if for any reason a gonorrhea is not treated at the proper intervals, the purposes of irrigation are entirely thwarted. In such cases recourse was until recently had to the little piston syringe, with all its limitations. Some practitioners, I among them, endeavored to overcome the difficulty by ordering large six or eight ounce syringes. Owing to the difficulty of their management and their inadequacy these proved disappointing.

Much of the preceding can be applied to those men whose enlarged prostate obliges them to evacuate the bladder with a catheter. The cystitis that obtains in a majority of these cases requires bladder-washing after catheterism, before the catheter is removed. It is true that several two-way stop-cocks have been devised for the purpose, but they are somewhat complicated and their asepsis is by no means assurable.

To distinguish this little instrument from the apparatus known to the profession as the "Valentine irrigator," it is called the auto-irrigator. Its small dimensions and light weight make it unobjectionable to patients, who naturally have no desire to obtrude upon others the need of using it. Moreover, these characteristics make it an easy occupant of the instrument-bag, whenever urethral or intravesical irrigations must be performed by the physician at the patient's home.

The receptacle for the irrigating fluid has a capacity of 1500 c.c.—about three pints. Its wide top makes filling it easy, without any danger of soiling the floor with a solution that would stain, as for instance potassium permanganate. The back of the receptacle is flat, so that its contents are not likely to spill when the instrument is suspended from a wall. The outflow and shut-off are modifications of those described elsewhere.

Fig. 4.—Irrigating the meatus.

In this connection, I again call attention to the peculiar finish of the nozzle, which prevents any injury to the most sensitive meatus in anterior irrigations. Moreover, its conical shape fits any catheter, and consequently renders bladder-washings by this means very easy when required for patients obliged to catheterize themselves.

With a view of facilitating my colleagues' work, I have formulated a series of directions, which experience has shown to be needed. They are necessarily exceedingly simple, with only so much explanation added as will enable laymen to intelligently follow the physician's orders. Naturally they will often have to be modified to meet the requirements of individual cases.

DIRECTIONS TO PATIENTS FOR THE USE OF THE AUTO-IRRIGATOR IN GONORRHEA.

These directions may appear complicated and perhaps difficult of execution. They are intended as suggestions for the physician only, and he will show the patient how to follow them easily and painlessly. Their complete and correct execution, even by an awkward man, requires less than five minutes. It seems desirable to be very explicit, so that a physician with little experience in the treatment of genito-urinary diseases may have no more difficulty in imparting the necessary instruction than one who does not need these directions. They naturally can apply only to the generality of cases; special circumstances may arise that will require essential modifications. Primarily, the patient should be impressed with the fact that his interest lies in strict compliance with his physician's orders, so that recovery be expedited and the dangerous complications and sequelæ of gonorrhea avoided. Quite frequently

patients will relate that they or their friends successfully used this, that, or the other preparation in gonorrhea. It should be made clear to them that two instances of the disease may appear almost identical and yet require far different drugs in their successful treatment. It will be well to write the directions for irrigations for each case in addition to drilling the patient in their performance. Those that apply generally are noted below; the magisterial tone in which they are written is adopted for brevity.

1. Direct the patient to screw a cuphook into a door or window-casing, at the point he can comfortably reach without painfully stretching his arm. If irrigations are to be performed in the standing posture; the above point is sought while the patient stands. If irrigations are to be performed while the patient sits, he should measure the height of the hook in the corresponding way, i. e., seated on the chair intended for use during irrigation.

2. Have him fill the irrigator with boiling water and hang it on the cup-hook.

3. Show him how to fasten the catch of the shut-off and place the nozzle and shield so that the hot water which will then flow out, escapes into a basin or any other convenient vessel.

4. While the hot water is escaping, prepare the solution that is to be employed (see below, "formulary").

5. Order the patient to as completely empty the bladder as he can, and explain that the purpose hereof is to prevent immediately washing away that part of the solution which is left in the urinary channel after irrigation.

6. Direct the patient to drop his trousers and drawers to below his knees, and to fold his shirt and undershirt upward, so that they will not interfere with the work or become soiled by the fluid, if he should be careless in its use. A further good precaution is to tie one towel about his waist and another around each leg, to positively prevent his body being soiled.

This can be simplified by the use of a piece of rubber sheeting twenty by thirty inches, with a tape tied to each upper corner and a hole two inches in diameter cut through the part over the penis. The penis can then be drawn through this hole, and the irrigation so performed.

7. Release the catch on the clamp, which allows the latter to close, and so shut off the rubber tube.

8. The solution to be used is then poured into the irrigator.

9. Have the patient stand or sit—as may be preferable—before the irrigator or toward its side. If the patient is to stand, have him place a tin or enameled basin on a table at such a height that his penis will comfortably rest on its margin. If irrigation is to be performed in the sitting posture, have the patient hold the basin with his thighs, at such an angle that the penis lies on its margin. If it is preferred to have the patient use the apron-shaped rubber sheeting described above (see 6), have him fold the ends of the apron so as to conduct the flow from the penis into a pot, slop-bucket or water-closet with the seat raised.

It will be well to impress on the patient that he must never use a stationary wash-basin or bath-tub for this purpose, as it may expose others to dangers to health and life, which can be prevented by a few simple precautions. Any patient who is unwilling to guard others from this unfortunate disease could be placed under a species of quarantine with more reason than sufferers from yellow fever are now subjected to restraint in this climate. It is true that many men have survived many attacks of gonorrhea, but sad experience has shown that many have died from joint, brain, heart and abdominal diseases due to this affection. Therefore, a being who directly or indirectly communicates it to another is worse than a murderer.

10. Instruct the patient to take the penis in his left hand.

11. Place the shut-off in his right hand, and lightly press its bars with the thumb and index finger. This will let a slight stream of the fluid escape.

12. Order him to direct the stream against the outer surface of his foreskin, and to turn the penis about until all the outer part of the foreskin is thoroughly cleansed.[2] When this is done, have him direct a stronger stream to the opening of the foreskin, until its folds are clean. Then slowly draw back the foreskin and, as each part of its mucous (red) portion comes into view, have him wash it in the same manner. When the foreskin is entirely turned back, have him wash the glans, the coronary sulcus—depression around the head of the penis—and then the sulci—little depressions—at each side of the frenum—bridle.

13. After the foreskin and glans are cleansed, cause the patient to direct the rubber tip of the irrigator to the lips of the meatus—opening or mouth of penis—until they are entirely clean.

14. Show him how to press the left thumb and index-finger upon the upper and lower surfaces of the glans. This will open the meatus. Into the so opened meatus have him direct a gentle stream until it shows its clean, red mucous lining. Direct him to approach the rubber tip closer, as he gradually increases the force of the stream, until the soft rubber tip is within the meatus.

15. Direct the patient to continue pressing the bars of the shut-off slowly together until the full force of the stream is obtained, or if a disagreeable tension of the urethra results, have him check the force of the stream. Warn him that he must not wedge the soft rubber tip into the meatus so tightly as to prevent the outflow of the fluid.

16. With a little care the patient can be taught to so hold the tube and the penis that the fluid spurting from the meatus will be caught by the shield and directed to the pan or apron. Consequently no portion of the room, of his garments or his hands need be soiled.

17. Have him cleanse his hands thoroughly with a stiff brush, hot water and soap.

18. Show him how to soak a piece of absorbent cotton in bichlorid solution, 1 to 6000, or 1 to 10,000, and place it on the glans to cover the meatus, drawing the foreskin forward to hold the cotton. If his foreskin has been removed, or if it is too small to retain the cotton, teach him to fasten it in place with a two-inch gauze bandage. If bichlorid irritates the glans, order the patient to use a saturated solution of boric acid instead.

19. Impress on the patient that when he goes to urinate he must throw the cotton that has been on his penis into the water-closet or, better still, burn it. After each urination, he must apply fresh, clean cotton, as above directed, and wash his hands thoroughly thereafter.

20. Teach the patient to cleanse the irrigator after each irrigation, by passing boiling water through it; the shield and rubber-tip by first washing in hot water and soap, and then scrubbing them with bits of cotton soaked in strong bichlorid solution—1 to 1000. The instrument must be dried before it is put away, and the clamp should be forced open by means of the switch, so as to save the tube from wearing at the compressed point.

Throughout the foregoing instructions the patient should be especially warned that when performing any part thereof, he must not approach his hands to any portion of his face, nor use his handkerchief. lest by either means some of the discharge be carried to his eyes.

THE SOLUTIONS USED.

As circumstances may oblige the physician to instruct a patient in the preparation of irrigating solutions, I here note the directions in this regard, which are ordinarily used in such cases. Naturally the selection of the drug employed must be governed entirely by the special conditions that prevail in each case.

In the vast preponderance of cases, permanganate of potassium is as yet used in the treatment of gonorrhea. The most convenient form of using this drug is in

2 Younger practitioners will do well to avoid the use of technical terms, even toward well-educated people. The method of giving directions to patients, that seems to appeal to the majority, is to use the ordinary expressions, coupled with correct anatomic designations, when they differ from those commonly employed.

2-grain tablets.[3] The necessary number of tablets may be dropped into a clean tumbler of cold water and crushed to hasten their solution. The irrigator may then be filled or half filled with water, as hot as can be comfortably borne by the finger, and the glassful of solution poured into it. Great care should be taken that no undissolved particles of permanganate remain, as they will burn the urethra.

For convenience of calculation, the following sufficiently accurate table is offered:

	Potas. Permang.	Water.
1 to 12,000	1 two-grain tablet	to one quart.
1 to 6,000	2 two-grain tablets	to one quart.
1 to 4,000	3 two-grain tablets	to one quart.
1 to 3,000	4 two-grain tablets	to one quart.
1 to 2,000	6 two-grain tablets	to one quart.
1 to 1,000	6 two-grain tablets	to one pint.
1 to 500	12 two-grain tablets	to one pint.

Only in very rare cases will a quart of 1 to 1000, and only most exceptionally will a quart of 1 to 500 solution be required.

OTHER SOLUTIONS FOR IRRIGATION.

Silver nitrate is used in solutions of from 1 to 10,000 up to 1 to 500.

Mercuric bichlorid is employed in solutions of from 1 to 50,000 up to 1 to 5000.

Cupric sulphate is made use of in solutions of from 100 to 1000 up to 250 to 1000.

Largin, of the new silver preparations, is the richest —11 per cent.—in silver and seems thus far the most effective while gonococci are present in the urethra. The solutions used are from .25 to 1.5 per cent. Owing to the difficulty of correctly making these solutions, and the necessity for precision, it is best to have them made by a pharmacist in double the strength required. The patient can then dilute the solution with hot water to the quantity and temperature needed. Pezzoli,[4] who first advocated largin, recommended that it be retained at first for five, and later for fifteen, minutes. The difficulty of doing this and the use of a clamp for holding it in the urethra suffice to make this drug unpopular. If used in irrigation its ends are accomplished without this complication.

Mercurol, the newest gonococcocide, seems to promise even better results than the silver preparations. Its use in urethral irrigations may be safely begun with a .25 per cent. solution. The results obtained by irrigations of mecurol have been elsewhere published.[5]

As mentioned before, the selection of the drug to be employed in each case is governed by the conditions which prevail.

INTERVALS BETWEEN IRRIGATIONS.

The tables carefully worked out in "The Irrigation Treatment of Gonorrhea; its Local Complications and Sequelæ,"[6] show the precise intervals which should elapse between each irrigation in acute and chronic gonorrhea. It therefore seems unnecessary to repeat them here in detail. It will suffice to note that experience has shown no good results from irrigating with potassium permanganate, silver nitrate, mercuric bichlorid or cupric sulphate oftener than every twelve hours in the beginning of gonorrhea. Largin, however, does no harm if used three times daily, while mercurol irrigations sometimes prove efficacious when used every five hours during the day.

The technique of intravesical irrigation has been so fully discussed elsewhere by the writer that it need not be repeated in connection with the auto-irrigator. Only most exceptionally can a patient be entrusted to perform it, and even then with a degree of risk which few physicians care to incur. The majority of patients can, however, be taught to properly administer urethral irrigations to themselves, provided they can not, for any reason, visit the physician to have them done. The need of intravesical irrigation obliges even the most reluctant patient who has been taught the use of the auto-irrigator to visit his physician once on the third, fourth, ninth and tenth days. In addition to assuring the proper treatment on these days, the patient has the advantage of frequent examinations, during which the inception of any complication is observed and its consequences averted before they may become serious.

When intravesical and anterior irrigations are required on the same day, the former should be administered first, lest some of the stronger irrigating fluid left in the urethra be carried into the bladder, thus possibly producing cystitis.

With some men the compressor—muscle that holds back the urine—so easily relaxes that the fluid used in anterior irrigations enters the bladder, without any effort on their part. These persons should take their anterior irrigations sitting, with a hard towel knotted under the perineum—behind the testicles. Where this does not suffice to keep the fluid from entering the bladder, the patient can not be allowed to ever attempt to irrigate himself.

Occasionally a case is seen in which the discharge and all other evidences of disease disappear after one, two or three irrigations. For safety's sake the whole ten days' course of irrigations should be continued. And even then the patient must be warned not to deem himself cured until negative results have been obtained by the tests detailed elsewhere.

Should a patient apparently have recovered from gonorrhea, and then without any cause the discharge appears again, it is due to an infection of some of the organs in connection with the urethra. All practitioners should warn their patients that if the discharge should so appear while they are traveling they should seek advice as soon as possible from another physician if they are prevented at once from reaching their own medical adviser.

ACCESSORY PRECAUTIONS.

As the greater part of this paper is written for physicians whose experience with gonorrhea is somewhat limited, the principal precautions that a gonorrheal patient should observe are, for convenience, here placed together.

Food.—The diet should be nourishing and no changes made from the patient's habitual food. Articles difficult of digestion should be avoided, as should also late suppers.

Drinks.—All alcoholic drinks—whisky, brandy, beer, wine—should be positively forbidden. So also should all carbonated drinks, such as Vichy, Seltzer, soda-water, ginger ale, sarsaparilla, etc. An exception is made in reference to people who are habituated to stimulants with their food. Lest their ability to take the

3. Patients have informed me that druggists occasionally offer for sale what they call "Valentine's tablets" for the treatment of gonorrhea. On investigation I have found these to be nothing but 2-grain permanganate of potassium tablets, distinguished only by an exorbitant price. Physicians should explain to patients that such abuse of the author's name is always unwarranted, and always springs from the cupidity and avarice of an unscrupulous dealer.

4. Pezzoli, C.: Wiener Klin. Woch., Nos. 11 and 12, 1898.

5. Phila. Med. Jour., May 12, 1900.

6. Published by Wm. Wood & Co., New York, 1900.

necessary nourishment be diminished, they may be allowed a glass or two of light claret at meals. Large quantities of water should be drunk, say a gobletful every two hours; or similar quantities of milk if patients prefer it.

Bathing.—The habitual daily bath need not be omitted because of gonorrhea. But to protect the eyes of the patient and those of other persons who may use the bathtub after him, he should, before bathing, cleanse the penis with absorbent cotton soaked in bichlorid, 1 to 6000, cover its head with cotton similarly soaked, and then draw a well-fitting condom over the entire organ.

Exercise.—While the patient should not indulge in vigorous exercise, he should walk in the open air enough to keep his general condition as good as possible. Bicycling, horseback riding or athletics in any form can not be allowed.

Suspensory bandage.—Every patient with gonorrhea should be advised to support the testicles continuously in a well-adapted suspensory bandage. It should have "back-straps" that pass between the thighs.

Stains from potassic permanganate.—Should patients, through awkwardness, stain their fingers with potassic permanganate, they will naturally desire to remove the stains. They may be instructed to use oxalic acid for this purpose, and duly warned to carefully wash the hands after its use.

AUTO-IRRIGATIONS IN PROSTATIC ENLARGEMENT.

It will at once occur to my colleagues that this apparatus must prove exceedingly useful in preventing the too frequent, sad results of self-catheterization as employed by old gentlemen with prostatic enlargement. It is perfectly true that many of these do not exercise even the precautions of ordinary cleanliness, despite which for a course of years they continue to live comfortably and are as well as is possible with such an ailment. But the many who die in consequence of infection are sufficient cause for deep regret to the physician, who was obliged to yield to their importunities to be allowed to relieve themselves.

In cases in which the feasibility of radical operative procedures is doubtful, or when the patient refuses to incur their risks, infection can be avoided by the following method of aseptic catheterization: Instruct the patient

1. To cleanse the mouth of the penis with absorbent cotton soaked in bichlorid, 1 to 6000.

2. To half fill the irrigator bag with warm 4 per cent. boric acid solution.

3. To wash out the urethra as directed above.

4. To insert the catheter.

After the bladder contents have passed off through the catheter:

5. The irrigator bag should be filled with a warm solution of boric acid, 4 per cent., silver nitrate, 1 to 2000 or 1 to 3000, or potassic permanganate, 1 to 6000—whatever solution the physician deems most desirable in the special case.

6. The nozzle of the irrigator is then to be inserted into the mouth of the catheter, the fluid is allowed to enter for a quarter of a minute, then the nozzle is removed to let the fluid escape from the catheter to cleanse it—this is repeated several times, until the fluid that comes from the catheter is quite clear.

7. Then the tip is reinserted into the mouth of the catheter and the liquid allowed to flow into the bladder until that viscus is comfortably filled—in some cases a smaller quantity is indicated.

8. The nozzle is then removed, and the bladder contents are allowed to escape.

9. Maneuvers 7 and 8 are repeated until the liquid flowing off is quite clear and transparent—in exceptional cases this can not be attained.

10. After the last emptying of the bladder as above, the liquid is allowed to flow into the bladder continuously for half a minute, then, without removing the tip from the catheter, the latter is slowly drawn out of the channel, which is washed by the fluid as it escapes during withdrawal of the catheter.

The above general directions must necessarily suffer modification according to the individual requirements of each case.

In conclusion I beg to submit: 1, that the auto-irrigator offers a safe and convenient means of anterior urethral irrigation in gonorrhea, when the patient can not visit his physician for the purpose; 2, that the auto-irrigator furnishes a convenient addition to the instrument bag for performing ante-operative and post-operative irrigation of the urethra and bladder; 3, that it is a most convenient apparatus for aseptic catheterism.

31 West Sixty-first Street.

TREATMENT OF PROSTATIC HYPERTROPHY.*

PARKER SYMS, M.D.

NEW YORK CITY.

Prostatic hypertrophy causes misery to a large proportion of men in advanced life, and results in such serious consequences that we must welcome every effort that is made to our means of curing or relieving its unfortunate victims. Fortunately much has been accomplished in this direction of late, and the author wishes to take this opportunity to present a new device that aids in the operation for radical cure.

When the prostate gland becomes enlarged it sooner or later acts as an impediment to the emptying of the bladder. In some cases it causes but little obstruction; in others it prevents the passage of the urine till the bladder is filled and distended, when the urine may constantly overflow by dripping, which is a condition often mistaken for incontinence of urine; or the bladder may be partially emptied by the act of urination, but it can not expel the last part of its contents, which portion, known as the residual urine, remains in the bladder and becomes a source of trouble, as will be shown later. When the obstruction is established the bladder is called upon to exert an extra amount of force and the muscles become hypertrophied and the bladder-wall thickened. Later the muscles degenerate and, when the obstruction becomes more complete, the bladder becomes dilated and atonic. Finally, from the damming up of the urine, the ureters become distended and dilated and open up an avenue for infection of the pelvis of the kidneys. Infection of the residual urine and a consequent cystitis are produced after the obstruction has lasted a variable time, and it is then that the patient becomes one of the worst sufferers imaginable. Usually the cystitis will be brought about by infection through catheterization.

Until comparatively recently it was not known that hypertrophy of the prostate could be radically relieved; in fact, all attempts in that direction had failed or

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had been found to be so dangerous that they were abandoned as recognized procedures. So the only relief offered to the patient was that which could be given by the use of the catheter, and the degree of this varies immensely. Some who are leading the catheter life suffer merely from the annoyance and discomforts of having to use a catheter. Others are wretched from start to finish, because they become readily infected and are constantly passing from one attack of cystitis to another, perhaps spending their entire time, day and night, in futile attempts to empty the bladder, and suffering pain and torture which are frequently beyond endurance. In such cases much relief can be afforded by proper surgical care, but it is only after tedious treatment, and it is only with the prospect of the patient soon passing through another acute attack of the trouble.

After prostatic hypertrophy is established nothing can afford permanent relief to the patient except some procedure which will remove the obstruction to the outflow of urine. Many useless procedures have been suggested and tried whose end was the cure of the hypertrophy of the prostate, but so far there remain but two methods which deserve favor in the minds of the profession. The first and most radical is some form of prostatectomy. The second is the prostatotomy performed by means of an electric cautery knife, known as the Bottini operation. This latter does not pretend to remove the hypertrophy of the prostate nor the gland itself. It is intended merely to effect a lowering of the urethral canal by dividing the prostatic portion in such manner that the bladder is able to empty itself voluntarily. The Bottini operation was devised over twenty years ago, by Enrico Bottini, of Pavia. At that time he published an account of the instrument used, and his results; the proceeding was rather extensively tried, but for some reason was abandoned. Recently it has been revived, and to-day it has many enthusiastic advocates who make great claims for it. The author has had no personal experience with this method of treatment, but it is advocated by such able men of late that he has fully determined to investigate it and try it for himself. It is an operation involving but little risk to the patient, and if it affords the relief claimed it is certainly of the greatest value. The most enthusiastic advocates of this method, however, do not claim that it will effect a cure or great improvement in all cases, and they concede that it yet remains for us to be able to distinguish just which class of cases are adapted to it and which are not. It still remains to be demonstrated how lasting or permanent the improvement may be in cases which have been benefited by the proceeding.

A line of treatment in which the author has had experience is prostatectomy, and his results have been so gratifying that he has been led to feel that this operation is one of the greatest achievements of modern surgery. Unfortunately, at the present time the statistics, gathered from reported operations, have shown for this procedure a fatality so great as to condemn the operation if this death-rate must be conceded to be the normal or necessary one. The author believes that this death-rate is not owing to the fact that the operation itself is a very dangerous one, but to the fact that the patients, when operated on, have been unfit subjects for almost any surgical procedure. When prostatectomy can be performed safely and properly it results in an absolute cure of the patient, and it is the only method for which this may be said. The author has operated on patients who were unable to obtain relief by the catheter and by bladder washing, who suffered most excruciating agony night and day, who had a number of ounces of residual urine and the highest grade of cystitis. The result invariably was complete cure of the cystitis and complete restoration of the bladder function, so that the picture would be reversed, from that of a man who every fifteen minutes or half an hour passed a small quantity of bloody, infected urine, and whose bladder had several ounces of residuum, to one of a man who could hold his urine from six to eight hours and then absolutely empty his bladder with comfort, and whose bladder was free from any evidence of infection.

The above gratifying results are certainly all that can be asked for, and it only remains that we shall be able to bring them about with a reasonable degree of safety. It certainly is not doing justice to the patient, nor to the operation itself, if we undertake this procedure as a last resort. The author claims that the proper time to do prostatectomy is before great damage has been done to the bladder, urethra and kidneys; in other words, it should be performed as soon as it be determined that the habitual use of the catheter will be necessary. If that be the case one will be operating on a patient at his best instead of at his worst. The operation itself certainly is not a dangerous one, and in proper subjects the results should be very good and the mortality-rate low. The author would not advise operating on men who are physiologically very old, in other words, men whose arteries are markedly degenerated, whose circulation is poor, and who are decidedly feeble, but in the ordinary man of 60 or 65, whose bladder is still in good condition, the operation can probably be performed with safety.

In a paper entitled "Prostatectomy," which the author read before the New York Surgical Society, Nov. 9, 1898, he advocated the perineal prostatectomy of Alexander as the preferable method of those then in vogue, but he expressed his objections to the performance of the suprapubic cystotomy, and proposed that, instead, one should make a small opening in the abdomen above the bladder fold of the peritoneum, and through this wound he could push the prostate, bladder and all, down toward the perineum, so that, with the other hand, he could enucleate the lobes of the prostate.

38 French Scale.

Dilated to 2½ Inches by Water.
Parker Syms' Bladder Retractor, for Perineal Prostatectomy.

Since writing that paper, he has operated through the perineum, but without making any wound above the pubis. In one case he was able to crowd the prostate down by manual pressure from above, because the abdominal wall was thin and easily impressed. In another case he succeeded in reaching the prostate and enucleating its three lobes by means of a special retractor, which he devised and now presents. It consists of a rubber tube made of the size and consistence of the ordinary perineal drainage-tube, on one end of which is cemented a thin rubber bulb; the bulbous end is inserted into the bladder through the membranous portion of the urethra, which has been opened, as after Alexander; when the bulb is well within the bladder it is dilated by being filled with sufficient water to expand it into a bulb 2½ inches in diameter; then traction can be made on the strong rubber tube sufficiently to bring the prostate into the perineal wound within reach of the finger, enabling the operator to perforate the capsule and to remove the gland. The operator has used the straight median incision, not having found it necessary to use one of the transverse or curved incisions of Zuckerkandl, Dittel, or Rydygier, but in certain cases one of these incisions would have great advantage over the shorter ones of the median line. The point the author wishes to make is that prostatectomy can readily be done entirely through the perineum, and that it should not be combined with a suprapubic cystotomy. The author feels that the perineal drainage of the bladder is of importance when a cystitis is present, but that it is not a necessity otherwise, and if the patient presents himself for operation before cystitis has been established the operator should endeavor to remove the prostate without opening the urethra or the bladder.

In closing, the author wishes to urge upon his confrères the importance of the early recognition of obstructing prostatic hypertrophy, and also that they should submit these patients to a radical operation before the cystitis, prolonged pain, infection and fatigue have put them in a condition where they are unfit to undergo a surgical operation.

DISCUSSION ON PAPERS OF DRS. VALENTINE AND SYMS.

DR. C. C. THAYER, Clifton Springs, N. Y.—The paper on "Surgical Asepsis of Urethra and Bladder" is valuable, not only in showing how inflammatory conditions may be prevented in these organs, but cured. Cystitis is microbic in origin, and suppurative in character, the sine qua non being infection. The initiative and predisposing cause is structural change, and the provoking and perpetuating cause is inoculation with microörganisms, the vesical inflammation being instigated by bacterial infection and determined by circumstances. The urine is the medium of intelligent diagnosis of the presence as well as of the particular phase of cystitis; but considering the many pathological conditions that may affect the character of the urine after it passes the bladder the exact condition of the lining of the bladder can not be accurately diagnosed from urine passed in the normal way, or until all the parts affecting the urine after passing the bladder are free from pathological elements belonging to them.

As the pathology of cystitis may be embraced under impaired nutrition and structural change in the lining of the bladder, and bacteria of suppuration, the treatment is clearly indicated, but in reverse order, namely, to overcome the infection which produces the inflammation, the structural change which the inflammation produces and the imperfect nutrition which favors structural change; hence, local aseptic treatment is necessary in the treatment of cystitis. Milk or soft-food diet, saline laxatives as required, frequent hot sitz baths, hot poultices, hot salt bags or the Japanese stove over the bladder, and the patient kept in bed are important adjuncts in the treatment of acute cystitis. If the symptoms are not ameliorated in two or three days, the urethra should be disinfected, a soft aseptic catheter introduced, the urine drawn, the bladder thoroughly flushed with sterilized water 105 F., in which soda benzoate or Seiler's tablets, 2 grains to the ounce, is added, after which the bladder should be filled with some antiseptic solution. As the bladder has no anatomical, but a physiological, capacity, the quantity of water must be gauged according to the comfort of the patient, and the temperature about 105 F.

My method has been to use a one pint fountain syringe with a pipette nozzle, which can be readily attached or detached from the catheter after it has been introduced, so that the bladder may be flushed several times and germicides introduced before removing the catheter. Perhaps the bichlorid 1 in 3000 is most destructive to most of the bacteria, one to four ounces being introduced and then allowed to pass out. This is repeated twice daily for three days to destroy bacteria and spores, then leaving an interval of three days. As the bladder is improved, and the patient comforted in bad cases by frequent irrigations, other remedies and reconstructives may be employed, namely, two ounces or more of the strained infusion of verbascum, calendula or balsam of Peru, with two or three drams of formaldehyde solution to prevent the ammonical decomposition.

Chronic cystitis is often occasioned by prostatic hypertrophy so well set forth in the second paper. This condition is tedious and not hopeful in prognosis, except when normal anatomical relations can be restored. The two reasons for this are the mechanical obstruction to the flow of urine by the hypertrophied prostate, overcoming the normal action of the detrusor urinæ muscle, and the decomposition of the residual urine. Treatment for these cases should be as suggested in the treatment of acute cases and that applied to the hypertrophied prostate surgically, as well set forth in the paper, or by forcible dilatation of the urethra by warm bougies.

In acute attacks of the prostate, occluding the urethra, the condition becomes serious, because of the difficulty of introducing the catheter and emptying the bladder. Nearly a year ago, and after vain attempts by several to pass a catheter past a hypertrophied prostate, and after the parts were quite lacerated, a metallic catheter was finally introduced through the stricture, and fearing lest it could not be introduced again if removed, I kept it in place for sixteen days, through which the chronic cystitis was successfully treated, the urethra satisfactorily dilated, and since which the patient has had no further trouble.

DR. GEORGE CHISMORE, San Francisco—Dr. Valentine has presented a very ingenious instrument to prevent sepsis in washing out the bladder. Anything that will diminish the danger of irrigation must be accepted with pleasure. I am sure that much mischief often follows the introduction of germicidal solutions into the bladder. I do not believe any one can devise a germicide that will destroy injurious germs in the bladder and leave the organ unharmed. Of the last paper, in reference to the removal of the prostate gland through a median perineal incision, the method recommended seems a good one. Any means that will give permanent relief to the evils that arise from senile hypertrophy of the prostate gland deserves the greatest consideration at our hands.

On the whole, prostatic surgery has been disappointing; the future of this operation seems more hopeful. I have lately had the pleasure of witnessing a median perineal prostatectomy by Dr. George Goodfellow, after a method he has been using for several years with gratifying results. He places the patient on the back with the thighs very strongly flexed on the chest. This position gives the surgeon such a command of the prostate region that he can readily enucleate the entire gland through a very moderate incision.

DR. CARL BECK, New York City—The antiseptic, or rather aseptic, efforts of Dr. Valentine have my warm sympathy and I do not believe that too much antisepsis or asepsis can be practiced. Every introduction of an instrument into the urethra is virtually a surgical operation, and should be preceded by the same care. If we do an operation on the outer surface of the body we do not content ourselves with pouring

a little boric acid on it, but we are contented only after scrubbing with soap and water and subsequent application of alcohol and bichlorid of mercury or a similar antiseptic. Even then there is another surreptitious enemy of asepsis, intracutaneous bacteria, which should not be underrated. These can not be reached by any disinfecting process. They are set free as soon as there is an injury of the integument, and it is only by protecting the skin-margins of the wound with sterile compresses, after the skin is dissected that they can be kept in check. No precaution of this kind can be taken in the urethra, which moreover is a much more congenial resting-place for bacteria than the skin-surface of the body, the follicles offering microbic shelter, which can not be reached by intraurethral injection. If there is an injury, be it caused by a cutting instrument or by the friction of a catheter, not only bacteria of the intraurethral surface but also those sheltered by the follicles have a good opportunity to infect the adjacent tissues. This finds its simple clinical illustration in the fact that whenever blood shows after catheterization, there will be a chill, the instruments having opened an avenue for infection. Thorough prophylactic disinfection of the urethra is still a pious wish. This, however, should not encourage any sins of omission. As our active antiseptic drugs, like bichlorid of mercury, etc., can not display their valuable properties as fully in the urethra, we would better rely on a passive bacterial destroyer, like iodoform, which, while powerless where there is no injury, displays its unequaled properties in the presence of a lesion. Therefore, I advocate the prophylactic injection of 5 per cent. in glycerin before the introduction of an instrument in the urethra. If an abrasion is caused, the iodoform will come in contact with the wound-serum at its stadium nascendi. Iodin is set free, and during this chemical process bacteria are destroyed or their development at least is arrested.

DR. F. W. ROBBINS, Detroit—I am surprised to hear the continual repetition of so many drugs as internal antiseptics. I have been interested in treating the urethra and bladder as recommended by Dr. Valentine for years, but I am not as enthusiastic as he has been. I am sure that irrigation of the urethra and bladder is of great importance. We find people among the laity who seem to think that they can irrigate the bladder just as well as we can, and they do not get the good results Dr. Valentine does. People feeling this way tend to throw the method of irrigation into disrepute, and any instrument which will become to the laity an easy one to use is going to still further increase the opposition to irrigation. The bag is very soft, easily broken and destroyed. I see no advantage over the ordinary fountain syringe with the exception of the arrangement at the nozzle. If the Doctor would throw aside all the rest of his instruments he will have a method which can be used in all cases where special treatment is necessary. Personally I consider urotropin to be the only internal urinary antiseptic of any value.

DR. J. RILUS EASTMAN, Indianapolis—There can be no question that Dr. Valentine deserves great credit for having perpetuated and championed in America the useful principles of urethral irrigation as enunciated by Janet. Valentine has shown us that very often the catheter introduced for irrigation produces in mechanical irritation more trouble than is relieved by its flushing. Janet and Valentine emphasize four points in the potassium permanganate irrigation treatment of gonorrhea, namely that the solution should be injected hot, often copiously and under pressure. These are indisputably the cardinal points to be kept in mind. It is a question, however, whether all this can not be accomplished by a safer and simpler method than that of Dr. Valentine; whether the author's object can not be brought into execution as effectively and more conveniently with a large blunt-nosed metallic syringe provided with a protective shield. I believe that when the thumb pressing the piston becomes educated to the syringe, the pressure can be gauged as accurately and controlled as well as with the apparatus of Valentine. The large syringe is more easily sterilizable. When it is used the solution is taken from the top of the container by withdrawing the piston. The solution is, therefore not apt to contain irritating crystals. When the permanganate solution is emptied into the jar of the Valentine irrigator the crystals, if any be present, precipitate at once to the bottom of the jar and are first to enter the urethra. It may be said that care will obviate the danger of introducing the crystals with the irrigator, but is it not after all a constant menace? The nozzle which Dr. Valentine has shown us this afternoon is too long and too pointed. It will certainly pass clear into the fossa navicularis of the average urethra and produce much irritation. It is made of soft porous rubber and will hardly be easily susceptible of perfect sterilization.

DR. J. B. BULLITT, Louisville—The principles that Dr. Valentine stands for are certainly proper and right, but it seems to me that an apparatus such as he has exhibited to-day is unnecessary. Progress should always be toward the simple, rather than the complex, and, as one man has said, there certainly is no need of anything more for carrying out the procedure than an ordinary fountain syringe and a properly-shaped nozzle. The sheath is certainly of value, but I should say that the most important part of his apparatus is the little clip whereby the stream can be turned on or off. This is needed in many operating-rooms, and I shall adopt it. I do not think you can well gauge the pressure of a stream of water by the ordinary piston syringe, but you can gauge the amount of resistance, and that is all. I do not believe that this syringe is more easily cleansed than a fountain syringe. I do not know of any class of cases that tries the surgeon's patience, if not his skill, so much as an old man who has reached catheter life. Draining by suprapubic operations in some cases will work admirably, but many of the bladders become infected and contraction with thickening of the walls results.

DR. F. D. GRAY, Jersey City—I wish to assert my belief in the superiority of enucleation over the Bottini operation. I have not done the latter operation, but I see theoretical disadvantages in it. An operation, however, such as enucleation, which the average general surgeon like myself can do without having first witnessed it, simply having read the technique, and which he can perform with comparative ease and with a good result both as to recovery and as to the function of the bladder, is not an operation to be ignored. The invention of Dr. Syms is a good one, but I see some advantages in doing the old operation, comprising the suprapubic cystotomy. It is important to be able to have the tip of the finger inside the bladder on the prostate gland to make counter-pressure during the work of enucleation, and the device of Dr. Syms, while very ingenious, can not, in my opinion, take the place of the finger. I have also wondered why in place of suprapubic cystotomy it is not sufficient to force down the prostate with one or two fingers in the rectum, hooked over the prostate or against it, particularly while enucleation is being done with the other hand, thus avoiding opening of the bladder either above or below. In case the fingers can not reach sufficiently to produce counter-pressure in the rectum a proper modification of Syms' rectal speculum could certainly serve the purpose.

DR. RAMON GUITERAS, New York City—Washing out the urethra and bladder always improves their condition even if you use simple water or a saline solution, and the use of a mild saline solution enhances the value of the irrigation. Practice makes perfect in all cases. Dr. Valentine can irrigate patients much better than they can do it themselves, but if the Doctor is absent then the patient can be taught to irrigate himself sufficiently well to improve his condition. I do not think, however, that the patient should be allowed to irrigate when he has obstruction, as when the cystitis is dependent on a stricture, or an enlarged prostate. In employing this auto-irrigation method a certain amount might remain in the bladder and cause irritation. I do not believe there is any comparison between a piston syringe and a fountain syringe. A piston syringe can occasionally be employed, but in a majority of cases you can not be guided by the amount of pressure. A patient who is being irrigated always knows when his bladder is full and can tell you when he has sufficient fluid in the bladder to cause him discomfort; then the inflow should cease. All further distention may do harm and will certainly cause bladder strain.

As to the treatment of prostatic hypertrophy, it is still in its infancy, and when you come to consider the various methods

of treatment of the day there are really only three or four: the catheter, enucleation and Bottini, with perhaps a palliative method with the formation of a permanent fistula. The question is when shall we do enucleation and when shall we do a Bottini? We should never do an enucleation in cases where there is a pyelonephritis, or very much damaged kidneys, or where there is a great amount of arterial disease. The class of cases on which to do an enucleation, as a general thing, can be determined by any one who has a good genito-urinary touch. He will find that the prostatic urethra is elongated and will be able to feel that bump or pillow, as you may call that projection of the middle lobe into the urethra. By rectal touch he can determine the size of the prostate, but very often simple manipulation of the finger is not sufficient in order to feel the prostate because the bladder prostate sometimes differs from the rectal prostate. A man may feel the prostate by the rectum and it may not seem to be large, but the middle lobe will extend up into the rectum and you will have a much larger prostate than you have any idea of. All these large prostates which feel like door-knobs when felt through the rectum are cases for enucleation. Lateral-lobe prostates are better enucleated by the perineal method, while if there is an enormous middle-lobe hypertrophy it is just as easy to enucleate by the suprapubic incision. In most prostatectomies there is a double incision. There is a certain class of prostatic hypertrophies where the Bottini operation is not very much needed, but it is indicated where there is a small middle-lobe enlargement causing sufficient impediment in the prostatic urethra to give rise to a large amount of residual urine. Such cases may be immensely improved by this operation, and it is not so dangerous as enucleation. In the case of a man who has a good genito-urinary touch and who selects his cases I do not think that the mortality from the Bottini operation should be more than 5 per cent., but in the hands of a novice who has simply read a description of the operation, there would be a mortality of not less than 15 per cent. In the most favorable cases enucleation would give a mortality of not less than 20 per cent. in the hands of the most experienced genito-urinary surgeon. There is no more difficult operation and it requires the greatest familiarity with the parts and the best surgical skill.

DR. F. C. VALENTINE, closing—Dr. Syms expresses preference for enucleation in confirmed prostatism. In this, I am convinced, the majority of surgeons agree, owing to the necessarily great hazards that still beset searing the prostate in the dark, as is done by the Bottini instrument. This operation, however, is likely to receive a new impetus, and become the less dangerous one, from the new incision-cystoscope recently devised by H. R. Wossidlo, of Berlin. By its means the obstruction can be seared under the guidance of the eye. As concerns my paper, I deem that our thanks are due Dr. Thayer for giving us, in his discussion, the benefit of his ripe experience. It is perfectly true that a number of colleagues have advocated the ordinary fountain syringes for urethral and intravesical irrigations. I need not call attention to the dangers to others of a household instrument being used for this purpose, nor the difficulties which its thick material imposes on the patient who for any reason can not be irrigated by his physician whenever necessary. Moreover the fountain syringe is of questionable sterilizability, while the little device I have shown can be boiled in its entirety and so rendered perfectly safe. In the treatment of enlarged prostate, when it is certainly impossible for the physician to relieve the patient's bladder and to wash it as often as necessary, the patient can be easily instructed to insert the soft conical nozzle of this auto-irrigator into the catheter, and to withdraw the nozzle as soon as he experiences a slight vesical tension. The fluid used for cleansing the bladder then escapes, as did the urine, through the catheter. With a little more instruction such patients can be taught, by the same means, to leave within the cleansed bladder, such a quantity of the antiseptic liquid as the physician may direct, and to further irrigate the urethra during the withdrawal of the catheter. I certainly agree, as must all others, who have had much to do with gonorrheal patients, that clap is entirely too dangerous a disease to allow any part of its treatment to be relegated to the patient. But there are circumstances in which the patient can not visit the physician with regularity. Moreover, there are men who discover their misfortune on the eve of a journey by rail or by sea and who must be helped to at least control the propagation of gonococci, as well as may be. The least intelligent of these patients needs but one lesson to perfectly accomplish anterior irrigation with the auto-irrigator. Such patients are more prone to avail themselves of their physician's advice, when its employment is rendered easy, as it can be with this device. Another consideration, and one of undeniable importance, is in the dimensions of the apparatus, which is so small that it can be concealed; this conserves the natural privacy which every patient desires to maintain regarding his infection. But I must emphasize the fact that I would never relegate the treatment of gonorrhea to a patient, unless when uncontrollable circumstances compel a makeshift.

All must quite agree that when there is no urethral discharge and when the urine is aseptic, and when careful asepsis is observed, the need of irrigating the urethra before and after instrumentation is not always imperative. I would add that this implies a degree of manual dexterity that all practitioners may not have acquired. We have all doubtless seen cases of urethral fever, with all its dangers, in patients who had been treated by others. Our obligation as teachers, it seems to me, embraces the advocacy of especially post-operative irrigation, which we know to be harmless and which, in the experience of those who employ it, has saved patients from urethral fever.

Dr. Chismore says that he does not appreciate how any remedies can destroy germs. I assume that he refers to those to whom infections of the lower genito-urinary apparatus is due. The Doctor voices the views and experience of all other learned men. But he will agree with me, when by a ready, easy and safe method of irrigation infection can be prevented, it is our duty to employ it, and that when an organ is infected it is equally our duty to strive to the mitigation of that infection by all means in our power.

Dr. Carl Beck reminds us of the bacteria which inhabit the normal urethra and which can be doubtless stirred into noxious activity by even the gentlest instrumentation. It is to Dr. Beck's credit that he suggested filling the urethra with sterilized oil containing 5 per cent. of iodoform, so that in the presence of those microscopic lesions which the gentlest instrumentation produces, the iodin which is then liberated exercises its bactericidal effect. The only modification that I would offer to this procedure, so in keeping with the behests of modern science, is the substitution of sterilized glycerin for the oil, because the glycerin being hydroscopic, permits effective irrigation, which would have but little, if any, effect on the urethra coated with oil. Let me repeat here that the results from irrigation can be best explained, in my opinion, by the artificial edema that it produces, rendering the mucosa an unfavorable culture-medium for bacterial propagation.

I regret that I must agree, in a measure, with Dr. Robbins in the danger of such an instrument as I advocate, becoming the property of the laity. But I must ask Dr. Robbins whether he would not prefer that his patients learned to appreciate the dangers of gonorrhea, by such means, rather than to continue to deem it trifling, and amenable to the little "P" syringe and the quack's or druggist's injections. It is just such scientists as himself who will be helped by the little device I have shown.

Dr. Eastman told us that the thumb could be educated to more intelligently gauge the pressure employed in copious urethral washings by means of a syringe, than by the stop-cock of the irrigator. While dexterity may go very far in employing a syringe as a manometer, allowance will always have to be made for the differences in individual syringes, as well as in individual urethræ. With the auto-irrigator there is no element of chance; the hydrostatic pressure is graded at will and easily fitted to circumstances and conditions as they vary in each case and in the same case at different times.

DR. P. SYMS, closing—Some misunderstanding must have arisen in reference to the instrument mentioned, which is intended to be inserted into the bladder through an incision in the membranous urethra.

TREATMENT OF TUBERCULOSIS OF THE KNEE-JOINT.*

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The treatment of tuberculosis of the knee-joint may be conveniently discussed under two heads: 1. Constitutional. 2. Local.

CONSTITUTIONAL TREATMENT.

The constitutional treatment, as a rule, is much neglected by most surgeons, although we admit that no specific drug has been found that will cure or arrest the progress of the disease in every case. Yet as it is not only often a severe drain on the general health, and chronic in nature, special attention should be paid to strengthening the individual and, by proper attention to diet and to his general health, placing him in the best possible condition to resist the attack.[1] As in pulmonary tuberculosis, much benefit is often derived from climatic treatment and from out-of-door life, so in bone tuberculosis the patient should be encouraged to be out of doors as much as possible, and, where the means permit, sent to such climates as have proved specially desirable in the treatment of such conditions. While some do best in high altitudes, others are better at lower elevations, but the crowded city, and the confining life of a hospital are not favorable to the best results. In addition, any organ of the body not in perfect condition should be looked after rather than all our efforts concentrated on the mechanical or surgical treatment of the knee-joint. Complete rest in bed rather than ambulatory treatment is indicated where the patient's joint is tender and where exercise seems to do harm rather than good.

LOCAL TREATMENT.

Local treatment should have in view: 1, the proper protection of the articulation; 2, perfect rest of the joint; 3, the prevention or correction of deformity; 4, the removal of the tuberculous process; 5, the treatment of complications.

The proper protection of the articulation means not only that it should be saved from ordinary trauma, but that even the slight jar produced in walking should be avoided and every possible attention paid to keeping the diseased joint at perfect rest. This can not be accomplished if the patient is allowed to walk and bear the weight on the leg. Crutches are necessary in adults and should be used whenever possible in children. The sound limb should be raised by means of a high shoe or patten, so that the affected side may at no time touch the ground. The particular form of brace used may perhaps not be of great importance provided rest and protection are secured.

At the Hospital for Ruptured and Crippled, New York City, the most convenient apparatus has been found to be the Thomas knee-splint. It consists of two bars of steel fastened at the upper end to a ring which passes around the upper portion of the thigh, the inner portion of the ring being just under the tuberosity of the ischium, the patient thus sitting on it and transmitting the weight of that side of the body to the ground through the bars, one passing down the inner, the other on the outer side of the leg to a foot-piece 2 to 4 inches below the foot, covered with leather or rubber. A leather trough posterior to the limb prevents its slipping back and, by straps passing across the front, the entire leg is firmly held in the splint. Over the shoulders is placed a suspender fastened to the ring, which thus holds it up. If desired, adhesive straps can be fastened to the leg, and by means of straps on the foot-piece extension can be made on the lower leg and the knee-joint surfaces separated and slight deformities due to contraction of the hamstring muscles thus overcome.

To prevent deformity of the knee, plaster of paris, leather, silicate of soda or other materials may be used, but great care must be taken to see that they are made sufficiently long, if we wish to accomplish anything. As ordinarily applied deformity either occurs under the dressing or increases because the soft part of the thigh prevents the dressing being applied snugly. To firmly hold the knee and prevent flexion a spica bandage may be necessary; as it does not slip down and as the femur is controlled at both its upper and lower articulation, no deformity can occur. With the knowledge that flexion and other deformities usually occur, they should be prevented, but if they are already present steps must be taken to overcome them. Many methods are in use, the most common being by weight and pulley applied to the lower limb, by traction on the leg with adhesive strips and straps on the brace, the use of slight force and a retentive dressing, with or without a general anesthetic, local anesthetics being of no value, brisement forcé under anesthesia with or without tenotomy of the hamstrings, forcible correction by apparatus, osteoclasis, osteotomy, excision and amputation.

Thomas' Knee Brace.

* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. The use of creosote or guaiacol, so strongly recommended by some authorities, can certainly do no harm when properly administered.

The choice of one of the above methods suitable for a given case should not be a very difficult matter. During active disease no violence should be permitted, and even if anesthetics are employed, cutting operations are preferable to the use of great force manually applied, and a safe rule would be to exclude brisement forcé from our list. In all cases we must remember that once deformity has occurred it will remain, unless we correct it, and this should be done early, not only that the limb may be kept in proper position if, unfortunately, a cure is to result with a limitation of motion, but that the muscles, ligaments, etc., about the joint may not be unduly shortened or lengthened, as must occur if the joint is held in a faulty position. The use of an anesthetic and slight manual force with a retentive dressing is a rapid and safe method if properly applied. Extreme degrees of deformity may require osteoclasis or osteotomy if the leg is in knock-knee or bow-leg, and extreme flexion deformities may require excision or amputation.

When we come to consider the removal of the local tuberculosis, we find that many methods have been employed and abandoned, and that in the knee the use of tuberculin, iodoform emulsions, carbolic acid, chlorid of zinc, etc., have not been of great benefit, except in rare instances. The Biers method of passive congestion, much lauded some years ago, has gradually fallen into disuse, and we have to consider whether to do an arthrectomy, an excision or an amputation in a given case. We should, however, lay down the rule that the more perfect our mechanical treatment the less frequent will it be necessary to operate. Arthrectomy or arthrotomy is the most desirable operation in early life, where the soft parts about the joint are much involved. If properly done, all diseased tissue may be removed, both of the soft parts and the bone, and a useful limb, with good motion can be secured, but to be successful it must be done before the joint is destroyed. Excision should rarely be done in children, because it is not indicated in the mild cases and is not radical enough in the severe. The great objection to it, however, is that, by the removal of the diseased bone, the epiphysis is destroyed and the subsequent growth of the limb seriously impaired. The removal of half an inch at the age of 2 years may mean a shortening of 9 or 10 inches at the age of 18. After excision in children prothetic apparatus should be used to prevent subsequent deformities.[2] In adults excision is indicated in a large number of cases, and the mechanical treatment should not be kept up too long and is not followed by as good results as in early life. We might say: in childhood excise only in exceptional, in adult life in the majority of cases.

Amputation may be indicated for the correction of very severe deformities and in cases where the local process is so extensive that arthrotomy or excision are not sufficiently radical.

The complications requiring treatment are abscesses, sepsis and tubercular sinuses. The first two may seem to be similar conditions, but most pathologists recognize a difference. The cold abscess in the beginning is simply a chronic inflammatory condition typical of tuberculosis, but may at any time become septic. The treatment of the two conditions, however, should be the same—perfect and complete evacuation, thorough drainage and, where possible, the closure of the abscess and the obliteration of its cavity. When it is found to communicate with the bone, the local focus may also be removed at the same time. The treatment of septic knee-joints should be most thorough; if drainage is not perfect with the openings on either side, the joint should be thoroughly exposed and no "pocketing of pus" allowed. Excision in rare instances may be necessary, and where the local sepsis has caused grave constitutional symptoms amputation should be promptly resorted to.

The treatment of sinuses is a difficult problem: nearly every drug or chemical compound known to the profession has been tried, and each surgeon has his favorite prescription. Dissecting them out from the bottom, thoroughly cleansing and closing them, or the use of carbolic acid and alcohol, iodoform emulsions, balsam of Peru, hydrogen peroxid or silver nitrate solutions will generally effect a cure. In uncomplicated cases the general opinion is that complete protection should be given the articulation for a period of from two to three years, and in cases complicated by abscesses or deformity longer treatment will be necessary.

Attention to the general health, proper protection and rest to the joint, the intelligent prevention or correction of deformities, aided by proper surgical procedures, when indicated, will prove that tuberculosis of the knee-joint is a disease in which surgeons may accomplish much, and the results will fully justify the expenditure of our best thought and time.

In this paper statistics have been purposely omitted and an attempt made to simply call attention to the broad principles that should guide us in the treatment of this disease.

DISCUSSION.

DR. J. M. BARTON, Philadelphia—In the earlier stages of cold abscess, before any secondary infection has taken place, I prefer, instead of opening and draining, to entirely remove the broken-down tubercular material if this can be done, and then tightly close the cavity. When secondary infection has taken place, of course, drainage would have to be used.

DR. A. J. OCHSNER, Chicago—I agree with Dr. Townsend as regards the treatment of this condition and especially in reference to the first portion of his paper in which he speaks of the general treatment. In large cities there are certain neighborhoods from which we get our tubercular joints and we have such a place in Chicago which we call "Little Hell." If I succeed, in cases from this region, in removing or treating the joint in whatever manner may be indicated in the given case and obtain a good result, and the child returns to this same vicinity, it will certainly come back to the hospital in a year or two with the same joint involved or with tubercular glands of the neck or tuberculosis somewhere. Three miles from "Little Hell' is a section of the city called "Lake View," which is high and dry, where the soil is sandy and the houses are built of wood. There are no basements and all the houses have small yards. If during the time the child is at the hospital I can remove the family to Lake View so that the child can go there instead of back to "Little Hell" the child will gradually return to a healthy condition. Lake View is also occupied by the working classes the same as the other place, but the surroundings are much more favorable for this condition. I have succeeded in moving a number of the families from one of these places to the other, and I believe this portion of my treatment has done more good than a surgical operation. We must remember that these children belong to a nationality which depends very much on others for advice in these matters.

DR. J. B. BULLITT, Louisville—I think the paper is sound throughout, and I desire to call attention to the fact that the protective treatment in these cases has been more universally followed by good results than the operative treatment. Dr. Gibney took the trouble to follow up all the cases which were treated in the Hospital for Ruptured and Crippled in New

2. The Prevention of Deformity after Excision of the Knee in Children, N. Y. Med. Jour., April 1, 1899.

York up to 1890. A great many of these cases had been treated by his predecessor, and the plan of treatment had been one of masterful inactivity and many of these cases have practically perfect functional joints. Many of the joints have good motion and are as good as other limbs. The comparison, therefore, as far as function is concerned, was very much in favor of the protective treatment. With the modern protection, such as Dr. Townsend employs, there would be a still greater comparison in favor of this method. That much good is to be accomplished along the line mentioned is unquestionable. The results which I spoke of as being obtained by Dr. Gibney were in cases treated in a large orthopedic hospital where the conditions were not nearly so good for recovery as they would be in private practice in smaller cities.

DR. T. J. SULLIVAN, Chicago—In Chicago, where we have many such cases, the great trouble all along has been with the general practitioner who does not recognize the conditions nor properly and promptly make the diagnosis, so that when the case comes for treatment a great amount of destruction has already taken place, and a great advantage has been lost. The diagnosis frequently made is that of rheumatism, but we may have a secondary mixed infection and great destructive processes can follow. If the profession can do anything in the way of prevention it is by an early diagnosis. Perhaps Dr. Mayo's operation, mentioned some time ago, of making an incision clear across the knee-joint and opening the joint thoroughly, may enable us to avoid amputation in many cases. Children are frequently surrounded by very bad hygienic conditions and tubercular processes go ahead with great rapidity, so that the most important point is the early diagnosis.

DR. W. TOWNSEND, closing—As to Dr. Barton's criticisms concerning the closing of the abscess before it becomes infected, I would refer to the portion of my paper dealing with that point.

THE EDUCATION OF THE SENSE OF TOUCH IN FEEBLE-MINDED CHILDREN AND ITS CONNECTION WITH MANUAL AND INDUSTRIAL TRAINING.*

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Dr. Seguin long ago pointed out that the proper way to educate feeble-minded children was by education of the senses, and that the more thoroughly this education was conducted, the better would be the training which could be afterward given. On this occasion I intend to concern myself more especially with the sense of touch, only alluding to the sense of sight when it may be necessary to do so. Mr. Herbert Spencer has shown how by evolution and specialization the other senses, smell, hearing, sound and taste, could have sprung from touch, and how touch is a universal language into which the other senses which are special languages would have to be translated in order to be understood. Thus we know that the vibrations of ether which strike on the retina stimulate the fibers of the optic nerve, and these fibers, when excited, have the power of awakening the sensation of light in the brain. This is one variety of touch. Another variety is that connected with the auditory apparatus. It is well known that bodies which produce sound are themselves in a state of vibration, and this vibration is communicated to the air with which they are in contact and so throw that air into waves in the same way as a stick waved backward and forward in the water throws the water into waves. These aerial waves entering the ear impinge on the drum of the ear and set it vibrating. This vibration is, by means of delicate structures contained in the ear, communicated to the branches of the auditory nerve in the ear. These being excited produce in the brain the sensation of hearing. It is therefore clear that the sense of touch is a very important one.

But in order that the sense of touch should be well developed it is important that the nervous structures of the skin should be in a normal condition, and that common sensation, as it is called, should be developed to the full amount.

Now, sensation in feeble-minded children is much more dull than in ordinary children, and they do not suffer pain to the same extent. Instances have been known in which the extraction of a tooth seemed to cause little inconvenience and patients occasionally pull out their hair when annoyed. I had a little girl under my care at Darenth, and she at times gave way to violent passion, and would bang her head against a wall or bedstead if not prevented. Dr. Grabham says that he has more than once or twice seen a comparatively intelligent feeble-minded boy sit quietly in a chair while his toe-nail was removed, requiring no one to hold him, and uttering no exclamation, but looking on as if interested, and stating that the operation did not hurt him. He also mentions the case of a child who had severely burned his hand by holding it in a gas flame, and yet he took the first opportunity after recovery to endeavor to renew an experience which did not appear painful to him.

I think the case that impressed on me the idea that feeble-minded patients do not suffer pain to the same extent as sane patients was that of a woman whom I saw in the dining-hall at Darenth Schools. As she was sitting down to dinner I noticed that she looked pale, and made inquiries of the nurse if there was anything the matter with her. Not being satisfied, I asked her to walk upstairs to her bedroom above. On examining her, to my great astonishment, I found that she had fractured her fibula, and yet she was able to walk downstairs and upstairs again, and did not complain of pain. Another sign that sensation is more dull in these feeble-minded children than in ordinary children is that many of them are quite indifferent to cold or heat. Without manifesting the least sensation or apparent inconvenience they will in some cases remain, if allowed, exposed to the heat of the sun in summer and to extreme cold in winter. They have chilblains in winter, owing to their weak circulation, and in summer may get slight sunstroke, but they do not appear to notice either. The skin in chilblains, though attacked, does not give rise to perception, that is, the child does not perceive anything wrong. The sensation of touch exists, but sensation is dulled, either because the perceptive center is wanting, or because the peripheral organ, that is, the skin, can not be relied on to transmit a sensation.

From what has been stated, it is quite clear that common sensation is defective and that the sense of touch must be cultivated. This may be done by making the child grasp hard and soft objects, and by passing his hand over various substances, such as marble, velvet, cloth, silk, etc., so that he may learn to distinguish the different impressions produced by smooth and rough objects. So sensibility to heat and cold may be discriminated by putting the hands into hot and cold water, or by handling bottles or other objects filled with water of different degrees of warmth.

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Having educated the sense of touch, we can pass on to the training of the hand, or manual training, as it is called. In ordinary kindergarten schools great attention is paid to the training of the hand, but previously to the time when this was first brought into use Seguin was at work training the hands of the feeble-minded, and his methods have to a great extent been incorporated with those which are now in use. If we notice a feeble-minded child who has had no education, we shall find there is a great want of co-ordinating power in the muscles, so that the hands with difficulty perform simple acts, such as picking up a pin or buttoning a coat. In the ordinary child this power is acquired early in life, but in feeble-minded children, especially if they have had no previous education, this power is not acquired until late, and if the education is stopped too soon, it is never acquired at all. Thus, I have seen boys and girls, even at the age of 15 years, unable to dress themselves because their manual training had been completely neglected. Parents have an idea that our only object is to teach their feeble-minded children to read, to write, to count, and to paint, etc., and the idea that manual training is required never enters their mind. No doubt this is due to the fact that ordinary children acquire this manual training almost instinctively, whereas feeble-minded children do not acquire it without being specially instructed in it. If you examine a hand of one of these children you will often find it soft and supple, but in directing the child to use the fingers you will see that the movements are badly directed, because the co-ordinating power which directs these movements is not properly developed. Now, how are we to develop this co-ordinating power? The answer is, by manual training. Of course in every case there must be some will power to put into use, for without a will there never can be anything executed. The training of the hand to useful occupation is simply a later stage of the cultivation of purposive movements aided by the progressive development of the senses and the intelligence. If you notice a baby, you will see a number of spontaneous movements, which are, however, quite purposeless, but as age and intelligence begin to dawn, these spontaneous movements are intuitively, or under the care of the mother, brought into co-ordination and by degrees are made use of for useful purposes. This is what is meant by purposive movements, that is to say, movements which have some purpose in view. In some low-class idiots you will notice quite purposeless, or automatic movements, as they are sometimes called, such as rocking the body to and fro, flicking the fingers before the eyes, and so on, and these movements have to be replaced by purposive movements. Again, you may observe children who suffer from spasmodic or choreiform movements. There are some children who suffer from athetosis, an affection producing constant slow, irregular movements, and in such cases it is necessary to produce a proper co-ordination of the muscular movements. A child suffering from this athetosis should be set to pick up and place in their proper cavities the marbles on a solitaire board. Afterward, what is called a peg-board will be found useful: it is simply a piece of wood with holes in it, in which metallic or wooden pegs have to be placed. The pegs have first to be grasped by the thumb and forefinger and then inserted into the holes in which they fit quite tightly. Then come exercises in threading beads and perforating picture cards, and the building bricks into various forms. All these exercises are exceedingly useful for children suffering from athetosis, as well as for the restless children who are often met with in this class. In all these exercises the hand is supplemented by the eye, and as a rule the hand and eye always work together. This is clearly recognized to the extent that there is a periodical published monthly called *Hand and Eye*.

Many of the exercises mentioned as useful for promoting co-ordination, such as building bricks, threading beads, perforating picture cards, etc., are useful in promoting manual training.

Size and form boards will also be found useful in cultivating accuracy in grasping objects. The size-board is a flat piece of wood in which are rounded cavities of various sizes, into which circular pieces of wood have to be placed, so that the small piece of wood goes into the small cavity and so on. The form-board is also a flat piece of wood with circular, triangular, square, oblong, etc., cavities, into which the corresponding pieces of wood of circular, triangular, square and oblong shape have to be placed. At first you will notice that the child will endeavor to put the square into the round hole, but as time goes on he will distinguish the varieties of shape and place the square into the square hole, the triangular into the triangular hole, etc.

Another method is to have a cushion covered with spots into which the child sticks pins; this will be found useful for training the hand in fine muscular movements.

Easy drawing lessons, painting and making pictures with colored chalks are also useful. Dressing lessons may be given with advantage, not only individually, but as a class exercise, in order to assist children to put on their clothes. Buttoning and unbuttoning clothes, lacing boots and tying bows or knots not only effect this, but ensure fine adjustments of the fingers, which is so necessary to be learned by the feeble-minded. In some cases it may be necessary to teach the use of the spoon and the knife and fork.

As regards industrial training, many of the kindergarten occupations will prove serviceable preliminaries to handicraft. Paper-weaving is an excellent preparation for sewing and darning, and the instrument which pricks perforated pictures will, in the hands of a skilful pupil, often lead to his employment in the shoemaker's shop; sloyd work, too, may in time lead on to carpentering. It must be remembered that these exercises do not merely train the fingers, but also through them the intelligence as well. Clay modeling, variegated paper mats and bead necklaces not only train the fingers, but excite a spirit of emulation which is useful as a stimulant to the feeble-minded child. There are many children who learn more with their hands than their head, and in these industrial training has an advantage over book-learning, such as reading and writing. Of course, the employment to which the child is put must depend to a great extent on his liking or disliking it. Some, for instance, will prefer carpentering, others gardening, and others cane-making or brush-making. Out-door is, of course, preferable to in-door work, but in this variable climate, especially in winter, it may be difficult to continue it, but where there is a farm this objection does not hold good, as the children or boys are under cover, and as they are generally fond of animals, they will be found to take great interest in the cows, pigs, fowls, etc., which are usually placed there.

For children who live in towns, these occupations can not of course be made use of, so that the country in this respect has a great advantage over the town. For those who live in towns, however, there are many kinds of

work which will be found useful for the employment of manual training. Cane-weaving and basket-making are easily learned, and so are Macramé work; and wood-carving of a simple character may be even learned by advanced cases. Knitting, crochet and darning should of course be learned, as these occupations will come in very useful, not only for the institution, but for the home, if the child should improve sufficiently to be discharged. In the cases of the rich, there is a great range of employment open, but for those who are children of working men much can be done. Work on the farm or in the garden will be of use in the country, and, if in a town, cobbling, tailoring, basket-making and mat-making should be taught. Girls should be trained in domestic work and in the laundry and also in making garments.

I am aware of the somewhat fragmentary nature of these observations, but they have been put together in the course of a busy life. Such as they are, I hope they may be of use to the audience to whom they are addressed.

EUTHANASIA—A MEDICOLEGAL STUDY.

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The last moments of our earthly career, the moments of transition from life to death, present a solemn and direful spectacle. To employ means to keep the dying individual a little longer on life's shore, or to hasten his "shuffling off this mortal coil," is a question which frequently confronts the physician. We are aware that death does not always come gently, "as light winds, wandering through groves of bloom, detach the delicate blossoms from the tree." Most men die from violence or disease; euthanasia is a rarity. Indeed, it is so rare that the afflictions of only a few organs or structures may bring about this kind of dissolution. We refer to organic cardiac diseases and cerebral apoplexy.

The term "euthanasia" has been variously defined, and is still a word of considerable controversy; so much so that "euphoria" was taken to be its synonym, and in a measure, perhaps, rightly so, as we shall see later. Euthanasia is originally derived from the Greek prefix *eu,* meaning well, and *thanatos,* death, or, in other words, "a painless death." This is the etymological signification of the word. There is also another meaning to it, to-wit: "a *means* for producing an easy death." It is with euthanasia, as expressed in the latter definition, that we shall deal in this paper.

The application of euthanasia is quite ancient. Egypt is, perhaps, its cradle. There it was extensively practiced among its priests, and to a certain extent among the military caste. To these chosen castes, stoicism was unknown; pain, degrading. The priests took upon themselves the solemn oath to alleviate pain whenever it existed, by any means whatsoever. Their medical armamentarium was deficient. Some of the important narcotics and anodynes were absolutely unknown to them. When remedial agents had proved inefficacious, and when death seemed inevitable, euthanasia was the only and last resort. Asia, especially the Orient, follows Egypt in this particular quite closely. The Bible tells us of the easy deaths of Abraham and Moses, namely, that the soul was kissed away by the breath of the Omnipotent. (See Rashi, Bible Commentator.) In fact, the ancient Hebrew considered an easy death to be an earthly reward from Heaven, to which only the righteous one could lay claim. Of the peaceful departure of Buddha, the Veda and Sanscrit furnish us with a beautiful picture. There it is stated, that on Buddha's command, the most venomous of serpents, the cobra, inserted its fangs in the locality of the forearm, and that Buddha thus died away in ecstasy. This and other methods of producing euthanasia are still in vogue in many parts of India. Rome and Greece offer us traditions of a similar nature. In these two countries the most prevalent method of producing euthanasia was to sever the radial artery. Another favorable mode was a goblet of hemlock. Even in modern times, the Mussulman, and, to some extent, the wily celestial, induce euthanasia by inhaling the fumes of the great somnifer, opium, and roll into everlasting dreams of enchanting houris or extensive rice fields.

What these semi-barbarians do unconsciously many civilized nations do as a result of ripe consideration and scientific decision. In this respect France ranks foremost. Whether those conclusions, however, are compatible with the highest principles of ethics, is the question to be discussed in the present paper.

Judge Simeon E. Baldwin, of New Haven, Conn., in the course of an address delivered before the American Science Association, of which he is president, made the following remarks:

"Of late years, it has become the pride of many of the medical profession to prolong such lives [meaning the lives of patients incurable] at any cost, discomfort and pain to the sufferer, or of suspense or exhaustion to his family. The patient has come to a point where he can not bear the thought of eating. The throat declines to swallow what the stomach is no longer able to digest. He craves nothing but to be let alone. A few hours, and Nature will come to his release. She is already, perhaps, fast throwing him into that happy unconsciousness of pain which we call lethargy. The vital forces have been spent. The mainspring is broken and the watch has run down. It can be made to tick feebly for a minute or two by shaking it hard enough; but cui bono? Only another mainspring can mend it. Only another soul, another world, can give value to this human life that is ready to flicker out because it is worn out. . . . Nature has kindly smoothed the sufferer's pillow by leading the way to that gradual exhaustion of the vital powers which follows the refusal of the stomach to receive or to digest food. To force nutriment into the system in such a case through other channels is simply to prolong a useless struggle at the cost of misery to the patient and to the profit of no one but the doctor and the nurse. In determining the nature of a disease, we look for the cause to the symptoms. Nature has so ordered it that symptoms are observed at that time of life when life is most worth saving. A lesion of one organ may then be expected to produce a reaction throughout the system. There is a general sympathy of the parts. On the other hand, in old age, the outward manifestations of an interior lesion seldom indicate that more than one organ is affected, and are often hardly noticeable at all. The patient does not know that he is a patient. There is no occasion that he should. The weakest part of his bodily mechanism has broken down. Why patch it up? Another is hardly less weak, and must soon succumb. Better for him and for his friends that his last days should be unclouded by the apprehension of coming death, and the change come to him quietly as a dream in sleep."

It is evident from what we have cited that Judge Baldwin holds that the physician's duty to save life is

only applicable in cases where there is a life to be saved. Where "the mainspring is broken and the watch has run down" there is no use of repairing. Under such circumstances it is best for the patient himself, as well as for his friends, that his life should uninterruptedly pass. By no means would the Judge tolerate the patient to suffer. He also suggests that death "come to him quietly as a dream in sleep." In a word, he favors euthanasia, only in a limited sense, however. At no time during his entire address does he state that physicians should directly hasten death; though should the physician act on Mr. Baldwin's advice, he would really do so indirectly.

Prof. L. F. Barker, of the University of Illinois, at the conclusion of an address delivered before the Ontario Medical Association, Toronto, June 6, 1900, remarked: "If radical cure be impossible, he will not forget the palliative; if at last the exitus lethalis can not be prevented, he will at least see that the end is euthanasic."

The French Academy of Medicine, at one of its meetings, after listening to many cons and pros concerning euthanasia, conclusively asserted that its application is justifiable whenever death is extremely agonizing and only a question of hours. But it was Dr. Bach who advocated euthanasia—in the sense of being a means to produce death—determinately. In 1895, at the Medico-legal Congress, the learned Doctor said: "Physicians have the moral right to end life when the disease is incurable, painful and agonizing." In this country, however, we are not favorably inclined to the dicta expressed above.

To administer drugs with the knowledge that it will produce euthanasia would not only amount to an indictable crime at law, but it would also be regarded as an incongruity to the ethics of the medical profession and to public morals at large.

"Euphoria" is what the physicians in this country will sometimes apply. The term euphoria means the aptitude to bear pain. It also signifies "causing comfort." That is why euphoria is frequently used synonymously with euthanasia, and that is the utmost that our physicians here will accede to. In no case will they directly hasten death.

As a matter of law, it is well settled that euthanasia—in the sense of being a means of producing an easy death—is prohibited. It is an old legal principle that the taking of a life is only excused if it is so done to save a life. In cases of abortion, for instance, the fetus may be sacrificed, if it is necessary, for the purpose of saving the life of the mother. Of course, it may be argued, that a person can only be guilty of homicide if his conduct was the direct cause of death. Hence, if the patient was suffering from a mortal wound he would have died anyway; euthanasia only hastened his end. But such reasoning is fallacious, and not recognized in law. According to law, "causing death and hastening death are the same thing, for all men must die some time." This doctrine is well recognized, and was upheld in Com. vs. Fox, 7 Gray, 585; State vs. Costello, 62 Iowa, 404; State vs. Scates, 5 Jones (N. C.), 420.

In the case of People vs. Ah Fat, 48 Cal., 61, it was held that if one suffering with advanced pulmonary tuberculosis, of which patient would have succumbed within a month, and a person knowing the patient's condition, should intentionally drench him "with cold water, by reason of which death supervenes immediately, he is as much guilty of murder as though he had stabbed him with a knife."

In cases where the physician has no actual knowledge of the danger of his treatment, on account of his own ignorance, so much so that it will amount to gross and reckless carelessness, he is guilty of homicide. (See State vs. Center, 35 Ver., 378; Commonwealth vs. Pierce, 138 Mass., 165.) In connection with this, it should be remarked that if a physician administers a certain drug, fully believing that the drug so administered will not do harm, but that it will benefit his patient, and contrary to his anticipations, it kills him, the physician is not indictable; i. e., providing the physician exercised ordinary care and prudence. (See 6 Mass., 141.)

In England, also, it is well established that the physician is liable for careless conduct. (See Rex vs. Williamson, C & P., 635; Tessymond's case, 1 Lewin, 169; Ferguson's, 1 Lewin, 181; Rex vs. Long, 4 C. & P., 398; Rex vs. Senior, 1 Moody, 346; Regina vs. Whitehead, 3 C. & K., 202; Regina vs. Chamberlain, 10 Cox, C. C., 486.)

From the foregoing it is obvious that the inability of the physician to foresee the evil consequences of his treatment has no weight with the courts of England and America. The question is always, whether the court found "the evil consequences" obvious. And this responsibility of the physician is binding on him independent of the consent of the patient. (See Commonwealth vs. Collberg, 119 Mass., 350.)

Should a case occur where it would be imperative to administer the maximum dose of a remedy, with the intention of assuaging pain and suffering, and should the attending physician anticipate that such quantity is apt to produce simultaneously cessation of the vital functions, and thus anticipating, should he still run the risk and administer that dose, what would be his liability? The law in such cases implies malice. He would, therefore, be guilty of homicide. (See People vs. Sanchez, 24 Cal., 17; State vs. Wells, 61 Ia., 629; Tooney vs. State, 5 Tex., 163.)

Thus far we have shown the consensus of opinion of the medical profession, and the decisions of the courts. This, however, by no means solves the problem. Whether euthanasia shall be practiced or not still remains an open question.

We know that in many cases euthanasia would indeed be a godsend. Let us illustrate it by the following case which occurred in the practice of one of the leading physicians of this city: A man aged 70, German by nationality, received a paralytic stroke disabling him of voluntary locomotion. In consequence of this, he became confined to bed. Improvement set in very gradually. Contrary to the advice of the physician, he began to indulge in walking. He stumbled, fell and contracted an intracapsular fracture of the hip-joint. The same was reduced, but on account of his advanced age union did not take place. Chronic invalidism was his share. He could never leave his bed. Due to degenerative changes, decubitus set in, producing much distress and agonizing pain. In spite of good care, feeding and proper medication, he grew worse. The ulcer extended peripherally and into the deeper structures, laying bare the tuberosity of the ischium. The discharge was fetid and cadaverous, necessitating frequent dressings. He was an incessant menace to himself and his family. He lamented bitterly and implored the physician to induce death. Even the family could not endure the suffering of the old man, and corroborated his plea. To change the dressings meant disgust and malaise on the part of the members of the family and the physician. Half a grain of morphin was given hypodermically for the

pain thrice daily, but without avail. Piecemeal, that man rotted away, a source of horror to himself and his surroundings. Such a case is but one of the instances that occur not infrequently in the physician's practice. Would it not be an act of mercy to practice anesthesia to its fullest extent and allow death to "come to him quietly, as a dream in sleep?" On the other hand, should the portals to the application of euthanasia be open, there is hard telling at what stage they would close.

Human beings are presumptuous. Make no restrictions and matters will run riot. Society, in order to maintain and protect itself, can not rely on the judgment of certain individuals. The law, therefore, laid down hard and fast rules, which every one, without exception, must obey. Human beings are weak; temptations are great. Should law be silenced on this point? Some physicians might, under the pretense of doing a merciful act, really commit a deed of felony. Let us illustrate. An old man, very wealthy, is suffering from an acute attack of peritonitis. He has an unlawful child to whom he thinks to bequeath his estate. He also has a nephew who is nursing him, and who is aware of that fact. This nephew is very anxious to possess himself of this old man's estate. Something must be done to prevent the old man from carrying out his intentions. The attending physician is a poor man. The nephew offers him a thousand dollars to apply euthanasia. The physician yields to the temptation. He hastens the old man's ascent to Heaven, and a double wrong is thus committed, to-wit: a life is taken and a rightful heir deprived. It is thus seen that the permission of the application of euthanasia would not infrequently be a paving of the way to injustice and crime. What, then, should we do?

Having considered both sides of the issue, our conviction is that, after all, it is far better for the welfare of society to let a few suffer, and not run the risk of creating crime and criminals. It appears to us that there is ample reason to dread that the practice of euthanasia would, in the long run, cause more harm than good. That is why the law, laboring as it always does for the good of the majority, has logically prohibited it. The working principle of jurisprudence is still the celebrated adage of the great utilitarian, Jeremiah Benton, the greatest happiness to the greatest number.

In no case, therefore, should the physician intentionally or directly cause death. "Causa causæ est causa causati" should be his warning. In other words, whenever the treatment of the physician is the direct cause, he should be considered as having created the cause; hence, he should be held responsible for its effects.

The physician is always under a great responsibility. At no time can he ever exercise too much caution. Due to the variety of circumstances, and the complexity of human nature, no ironclad rules can be laid down. But as a general proposition, it might be stated that he should at all times do his utmost to alleviate pain, and make the pangs of death as void of agony as possible. By doing so he will have complied with the highest standard of ethics, and will earn the gratitude of humanity.

Large Child.

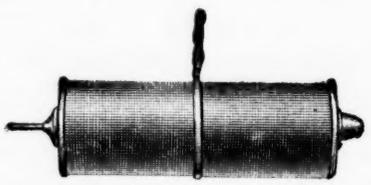
Dr. J. Pfeiffer reports in the *Orvosi Hetilop*, No. 34, what he considers the largest child born in good health and spontaneously. As quoted in the *Bull Méd.*, the child weighed 6600 gm., or about 14.1 pounds. It was 55.5 cm. in length, and the head measured 37 cm. in circumference. The placenta weighed 2150 gm. and the cord was 53 cm. long.

REMOVAL OF A PIECE OF STEEL FROM THE GLOBE BY ELECTROMAGNET.

WALTER B. JOHNSON, M.D.

PATERSON, N. J.

James Andrews, 35 years of age, was presented to me by Dr. William S. Colefax, of Pompton, N. J., March 24, 1900. The patient had received an injury of the eye. While nicking bars with a steel chisel, a chip flew from the bar and struck him in the left eye. The foreign body punctured the globe at the upper third of the cornea, inflicting an oblique wound which extended entirely across the cornea in the superonasal quadrant from limbus to limbus. It passed into the globe through the iris and lens and into the vitreous chamber. The iris was prolapsed and the globe apparently filled with blood. The eye was cocainized and approached with the small end of the magnet devised by the writer; the piece of steel located and as it was engaged by the point of the magnet it was gradually withdrawn, the resistance being very slight. The prolapsed iris was then snipped off and the edges of the wound coapted.



The removed steel was crescent-shaped, 3/8 inch in length, over 1/8 in width and 1/16 in thickness.

The eyes were bandaged and the patient sent to the Paterson General Hospital. He remained in the hospital four weeks; during the first two weeks the eyes were kept bandaged. He made a slow recovery, but never had any pain. During the next two weeks the eye was protected by London-smoke glasses. The only symptom which annoyed him was lachrymation on exposure to the light. There was considerable injection, which persisted. The pupil was distended and the lens cataractous. On May 19, there is very little redness of the eyeball remaining; there is no pain; the patient's health is good. He has been working for the past week; he still has some lachrymation in the left eye in the morning. The tension of the eyeball is normal; the patient can see shadows; the cataractous lens prevents ophthalmoscopic inspection. The appearances indicate the preservation of the eyeball and possible subsequent operative procedure for visual effect.

Medical Testimonials to New Remedies.—This was one of the chief questions discussed at the German Congress of Physicians and Naturalists held at Aix-le-Chapelle in September. Prof. His stated in his address that the creation of a central official laboratory for the testing of new remedies was an urgent necessity. No physician should write a testimonial in favor of a new remedy unless he has exceptional opportunities for testing it in hospitals or clinics. It should only be addressed to the profession and no one should be allowed to use it for advertising purposes in the daily press nor for general distribution. Physicians whose inventions are commercially exploited are responsible for the manner in which the advertising is conducted. Kobert insisted that before a remedy can even be advertised in the medical press it should be subjected to thorough theoretical tests in the chemical, bacteriologic, pharmacologic and physiologic laboratories and then tested on animals.

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THE USE OF INTRA-ABDOMINAL CULTURES IN COLLODION SACS IN THE STUDY OF BACTERIA.

The method of research recently introduced by the successful cultivation, by Nocard, of organisms enclosed in collodion sacs and placed in the abdominal cavity of living animals, has been used by Vincent[1] in the study of the pathogenic adaptability of saprophytic bacteria. He found that by this method harmless varieties of saprophytes, such as B. megaterium and the potato bacillus, could be changed into virulent organisms capable of producing toxins and causing general infection. As pointed out by Nocard, the walls of the collodion sacs permit of a ready change in the composition of the fluid within them, thus preventing auto-intoxication of the bacteria and at the same time the body fluids enter gradually and furnish sufficient food for the germs, which thus become exposed to the influences of growth under the new conditions.

The bacillus megaterium became virulent after four passages, of six or seven days each, through the bodies of animals into which the bacilli were introduced in collodion sacs partly filled with bouillon; intermediate cultures were made on ordinary media between each passage. It now killed mice, guinea-pigs, and rabbits, by producing a general hemorrhagic septicemia. At the same time changes in its growth form were observed. Grown under ordinary conditions the newly acquired virulence was lost again in three months. While virulent, vaccination, with the production of immunity, could be made.

The potato bacillus acquired pronounced virulence after four to seven passages. Spores heated to 100 F. and recultivated did not lose their virulence, but transmitted it to their descendants. The bacillus became pathogenic by virtue of production of toxin and by causing general infection. In this case also the appearances of the cultures were changed.

These interesting experiments demonstrate the plasticity of microbes; it appears possible to subject saprophytic organisms to a progressive education, as it were, adaptation to parasitic life being acquired by cultivation in living media. As would be expected, the saprophytes thus treated have a tendency to recover their hereditary characteristics, but the fact remains that they have been shown to be able to elaborate toxic diastatic products and destroy cells while the bacteria multiply in the ruins. It appears that the distinction between saprophytic and pathogenic microbes is rather an artificial one.

Centani attempted to cultivate the virus of rabies in collodion sacs, but without success. Nocard,[2] however, apparently succeeded in securing pure cultures of the microbe of contagious pleuro-pneumonia of cattle by inoculating some of the material from the lesion into collodion sacs filled with bouillon; he then inserted them into the abdominal cavity of guinea-pigs and other animals. After a time the fluid became turbid and, although the smear preparations did not reveal any microorganisms of such size as to be recognizable with our present powers of magnification, yet the inoculation into cattle of the contents of the sacs, incubated in the animal organism, produced the disease in typical form. Nocard concludes that the organism is so small that we are not now able to see it.

As pointed out by Trudeau,[3] the collodion-sac method of experimentation offers broad fields for the study of the influence upon the germs, their virulence and products, of the growth under such conditions, and for the study of the effect of freshly and continuously elaborated toxins on the living organism while the latter is protected from the direct pathogenic consequences of the spread of the microbe throughout the system at large. The method also seems to open new possibilities in attempts at successful production of artificial immunity and the obtaining of antitoxic substances for the treatment of diseases.

1 Ann. de l'Institut Pasteur, 1898, xii, 785-798.

CAN PYOGENIC BACTERIA PENETRATE THE NORMAL GASTRO-INTESTINAL MUCOUS MEMBRANE?

This question has been variously answered by different investigators who have studied it experimentally and otherwise. Bacteria have been found in the chyle of normal animals by some investigators, while others have not been able to demonstrate bacteria in the chyle. Similar contradictory statements are made in regard to the presence of bacteria in the fluid in the hernial sacs. The passage of bacteria through the intestinal walls is held by some to be cause of peritonitis in intestinal paralysis, but even this is denied by others. Kocher was the first to call attention to the gastrointestinal canal as an entrance point of pyogenic infection, e. g., in osteomyelitis. His experiments, made as long ago as 1879, are hardly convincing in the light of accumulated knowledge, and later experiments of others have given contradictory results—Karlinski obtaining positive results from feeding experiments, Alapy and Neisser negative results. This contradiction is probably explainable, at least in part, by the use in some of the experiments of material of but little virulence, and on the other hand by infection from the pharynx, which Lexer has shown recently may follow the introduction of a few drops of culture of virulent streptococci into the throat.

2 Ibid., pp. 561-568.

3 Bull. of Johns Hopkins Hospital, 1899, x, 121.

Bail[1] has studied the question again. The experiments were made on rabbits. Five to six cubic centimeters of a highly virulent streptococcus suspension in bouillon were introduced into the stomach of rabbits by means of a soft-rubber tube, great care being exercised to prevent the escape of streptococci into the pharynx. Of 40 animals 7 died from a general streptococcus infection. By means of culture experiments and of microscopic sections it was found that the cocci made their way through the intact mucous membrane of the small intestine and into the blood-vessels of the mesentery. Ribbert and Bizzozzero found bacteria in the normal lymph-follicles in the vermiform appendix of rabbits, and Bail also found bacilli and cocci in these follicles but also streptococci in the walls of the small intestine —where bacteria are normally absent—in 5 of the 7 rabbits that died. Presumably a local superficial enteritis induced by the streptococci prepared the way for their entrance. Bail concludes that intensely virulent streptococci may penetrate the normal intestinal wall and cause a general infection. These results are opposed to those of Buchbinder, who introduced bacteria into the intestinal canal, portions of which he then compressed by means of rubber rings; but it seems according to Bail that the bacteria used were not shown to be highly virulent, and furthermore that the methods used for demonstrating the bacteria in the intestinal walls are open to criticism. Bail's results indicate that virulent streptococci may invade the organism from the lumen of the normal intestine.

The only possible objection to this conclusion would be that infection after all took its point of departure in some other region, such as the pharynx, and that the streptococci found in the intestinal walls were there by virtue of a hematogenous transportation—a sort of elimination—and not as the result of entrance from the lumen. This objection, however, seems somewhat far fetched.

1 Arch. f. Klin. Chirurg., 1900, lxii, 369-384.

BLASTOMYCETIC DERMATITIS.

The number of cases of this form of cutaneous infection is increasing constantly. Up to this time it seems that typical blastomycetic dermatitis has been recognized and studied by Americans solely. There are now about twenty recorded cases in which the diagnosis is satisfactorily established by the study of the microscopic character of the lesions and the characteristic, budding, doubly-contoured organisms usually present in the little abscesses that form such a prominent feature of the clinical as well as the anatomical picture. And yet it is to be remembered that absolute demonstration of the etiological rôle of the organisms is still wanting. No one has produced blastomycetic dermatitis by experimental inoculation of human beings with pure cultures, and in the ordinary laboratory animals the convincing cutaneous lesions do not follow local infection. But the clinical picture, the histopathology, and the presence of the organisms, which are often easily isolated, at other times with great difficulty or not at all, have left no doubt as to the entity of the disease in the minds of those who have had occasion to actually study it.

Dyer,[1] of New Orleans, describes an instance involving the hands, face and leg of a woman of the better class; he compares the disease with yaws, a widespread cutaneous affection of unknown nature of the West Indies, but without reaching any definite conclusions as to the identity or difference of blastomycetic dermatitis and yaws. Montgomery and Ricketts[2] describe three new cases of blastomycetic infection of the skin, giving full histopathological and mycological details. One case is especially interesting, because the lesion, situated on the lip, much resembled squamous-celled carcinoma. It developed in a man who worked in grain elevators and who had handled grain affected with "dry-rot"—fungous disease. Hyde and Ricketts[3] also describe fully two new instances. In this article is brought out well the peculiar action of potassic iodid in this disease. Given in drop doses of a saturated solution and increased up to the limit of toleration, the iodid in many cases produces a marked improvement of the lesions, but as yet no complete cure has been secured. Here is seen a means of great aid in differentiating blastomycetic dermatitis from cutaneous syphilis on one hand and verrucous tuberculosis on the other. There is no good evidence at all that any of the cases of blastomycetic dermatitis so far observed were in reality examples of other diseases, e. g., carcinoma or syphilis with accidental implantation of blastomycetes. The increased knowledge of blastomycetic dermatitis will lead to the accumulation of observations and as previously emphasized in these columns[4] there is good reason to believe that many instances of this affection have been, and probably are being, mistaken for carcinoma and tuberculosis.

1 Jour. Cutaneous and Genito-Urinary Diseases, 1901, xix, 14-25.
2 Ibid., 26-43.
3 Ibid., 44-59.
4 THE JOURNAL A. M. A., Aug. 20, 1898, and Dec. 2, 1899.

LAY COMMENT ON PATIENT'S INGRATITUDE.

A physician was recently stamped to death in Oklahoma by an ex-patient from whom he was trying to collect a bill for medical attendance. As a lay journal remarks, this appears "to be only a little more exaggerated example of the ingratitude which is manifested every day by a world in which billions of people are very quick to call physicians and very slow to pay them." It is refreshing to note this comment, indicating as it does a correct appreciation of facts in a quarter where it is not always looked for.

NEWSPAPER ENTERPRISE.

The Seattle (Wash.) *Times* of December 26 announces the opening of the Pan-American Medical Congress on that date. The news comes to it by special dispatch; the number of physicians in attendance is given at about 1000, of whom 300 were Cubans, and a large

number of Mexican delegates had arrived on a Mexican warship. Few, it says, were in attendance from South America, the distance being too great for any large representation. As an example of newspaper enterprise of a certain kind this special dispatch is rather interesting.

NEW YORK STATE JOURNAL OF MEDICINE.

Number 1, Volume I, of this new journal is before us. It is published monthly by the New York State Medical Association and takes the place of the annual volume of transactions. The journal consists of twenty-four large double-column pages of reading matter, with eight advertising pages. It makes a good appearance and the committee in charge is to be congratulated on its efforts. This makes the third state body to publish a monthly journal in place of an annual volume, the other two being the Medical Society of the State of Pennsylvania and the Illinois State Medical Society. In each of these states the enterprise is giving satisfaction. It is certainly better to have a monthly journal go to each member than to have an annual volume and this to be placed on the shelf and soon covered with dust. Such a monthly journal gives an opportunity for the members of the medical profession of the state to exchange views on various topics of interest. We note that the new journal opens its pages to advertisers; this is sensible. There is no reason why respectable advertising should not be admitted to a medical journal, and we believe that it is common sense and business-like to accept such. Legitimate advertising is a benefit to the physician, as well as to those who supply him with the many things he needs in his work.

THE SAN FRANCISCO PRESS AND THE QUARANTINE OFFICIALS.

A portion of the San Francisco press has continually and consistently demanded the removal of the quarantine officer of that port, Dr. Kinyoun, because he has not, in the performance of his duty, met their wishes in denying or suppressing facts in regard to plague cases. They have even gone so far as to want him dismissed from the Marine-Hospital Service altogether, though for present purposes his removal to another sphere of action would be most welcome. The latest utterances, however, go farther and charge the head of the bureau with malfeasance in office in not mentioning the cases occurring as "reported as bubonic plague but the diagnosis disputed by the medical profession of San Francisco." The paper that contains the above, charges that the chief of the Marine-Hospital Bureau has deliberately falsified an official record, and suggests a Congressional inquiry. It is questionable whether the results of such a measure itself would be perfectly satisfactory; it might only extend the list of those whose acts and opinions are so offensive to a portion at least of the San Francisco press and public. If that city escapes a serious visitation of the plague, as it is hoped and trusted it may, it will not be due to the hysterical organs like those quoted and to the worried commercial interests backing them, but to the health and quarantine officials who are the subjects of their abuse.

MICHIGAN BOARD OF REGISTRATION AND LOW-GRADE MEDICAL COLLEGES.

The Michigan Board of Registration is making a praiseworthy effort to render efficient a rather imperfect medical-practice act. The Michigan law accepts diplomas from recognized colleges as a qualification for practice, but leaves the recognition to the Board, which, using its authorized discretion has thus far "recognized" some thirty odd institutions out of the two hundred, more or less, in the country. This discrimination is not an arbitrary one, but is based upon personal knowledge derived from inspection of these institutions. The committee of the board to which this duty was assigned, in its recent report, says in regard to some of the medical colleges that have come under its purview: "We regret to say that the printed announcements and catalogues of some of the schools do not represent the facts of the case as shown by investigation. A medical college on paper seems to be one thing and its genuine conditions and requirements as applied to students decidedly another." This is the official statement of a fact well known to every one in the profession and even a stricter scrutiny than that of the Michigan Board would not be amiss. If, however, its methods were universally or even generally adopted it would be greatly to the benefit of the standing of American medicine.

THE BELLEVUE HOSPITAL SCANDAL.

The recent scandal in Bellevue Hospital where certain male nurses were held to the grand jury by the coroner's findings for the killing of an insane alcoholic patient, illustrates a fact that is not always fully appreciated by the medical profession or the public. It is that ordinary nurses' training alone is insufficient to make anyone fitted for the care of the insane, especially the violent cases, a duty that requires special natural as well as acquired qualifications entirely different from those demanded of any ordinary nurse. In view of the general outcry of late years for trained nurses in hospitals for the insane, this fact is important; what may be called the essential moral qualifications of an ideal asylum attendant are not essential in the trained nurse, who is a much more easily manufactured product. This difficulty of obtaining ideal attendants is the most troublesome problem in asylum management, and not infrequently the cause of trouble and scandals. The discipline and morale, however, of a well-conducted asylum are such that fewer abuses occur than might reasonably be feared. Similar discipline is not readily applicable in a general hospital and might easily be lacking in an insane ward attached to it, especially if the ordinary training of nurses is depended on to qualify its attendants. The moral of the recent event in Bellevue is not "abolish the male nurse," as a New York paper puts it, but that trained attendants, not mere trained nurses, are required in a ward for the insane.

THE MEDICAL DEPARTMENT OF THE ARMY.

In this issue there appears a communication from the President of THE AMERICAN MEDICAL ASSOCIATION in regard to the pending bill for reorganization of the army in so far as it involves the medical department.

Dr. Reed shows how the proposed change in the original bill will affect the standing of the medical corps and through it the welfare of the army. It is a fact, but one only beginning to be occasionally appreciated and quickly forgotten again, that the medical department is the most important one in the army in time of war; it is practically the first line of defense and a most indispensable adjunct in offensive operations. In modern war disease is the worst enemy to be met, and it is only exceptionally that it is not responsible for the greatest mortality and combatant inefficiency. An insufficient, untrained or demoralized medical corps means uncontrolled disease and possible disaster, in any case a positive increase of inefficiency of the army as a fighting machine. We had ample illustration of this fact in our late war with Spain, where a trained medical force adapted to an army of 25,000 was called on to do duty for an army of ten times that size, the deficiency of medical force being made up by civil surgeons untrained in military needs. The British experience in South Africa is similar, and both furnish ample proof of the need of well-organized and duly-recognized medical corps. Dr. Reed points out clearly this need and how the proposed legislation will affect it. It remains for the medical profession to use its influence in behalf of the army surgeons and to secure for them proper recognition and treatment in the reorganization.

BLUE GLASS REDIVIVUS.

Many of our readers will recall the blue-glass fad of the late 70's which had a brief career. While it lasted many popular articles appeared upon it, and a book was written which is still occasionally to be seen in second-hand book stalls and elsewhere. While some individual experimentation was undertaken at the time the subject was not considered seriously by the medical profession. It scarcely made any impression on medical literature of the day, at least we can recall no articles of note; it was generally dropped as a popular craze and quickly passed out of fashion. Judging from present developments in phototherapy in which the violet end of the spectrum is mainly used, it may be that there was a neglected germ of truth in the craze after all. We knew nothing then of the Roentgen or the Becquerel rays, nor do we yet know all their possibilities. Now, however, a Russian physician, A. V. Minin,[1] reports remarkable therapeutic effects from the use of electric light passed through blue glass in arresting pain, in some forms of which, intercostal neuralgia for example, there is, he says, nothing like it "for effectiveness and rapidity of action." Its influence, also, in hastening the absorption of blood or effusion is likewise remarkable as he claims, and a number of cases are reported in which these and other advantageous effects were observed. Nothing in this is attributed by the author to other agencies than the blue light, though the question naturally arises whether the influence of suggestion was not in play. With the results reported, however, the experiments are worthy of a test, especially since nothing more than an ordinary 16-candle light from a 100-volt current, passed through blue glass, is required. The exposures varied in number and length in different cases, but were usually ten or fifteen minutes in duration and repeated as required, according to the case. It is hard to see how the applications can do any harm and if there is anything in it, which can not be absolutely denied *a priori*, it is worth a trial.

1 Wratch. Dec. 1 (Nov. 18, old style), 1900.

BACTERIAL TRANSMUTATION.

At a recent meeting of the Société de Biologie, Paris, Dr. Caldas, a Brazilian bacteriologist, reported experiments on the colon bacillus of the rat. By cultivating the organism with a certain mold derived from rice, *Aspergillus orizæ*, and passing it from rat to rat, he finally obtained a bacillus closely resembling the typical plague germ, in great numbers from the glands, spleen, stomach and intestines of the infected animals, which produced, when injected into rats, similar clinical symptoms and was always rapidly fatal. The biologic characters of this organism throughout were the same as those of Kitasato's bacillus pestis and he has no doubt as to their equivalence. He claims, moreover, to have succeeded in rendering a horse immune by venous injections of at first very diluted cultures of the germ, followed by more virulent ones, and with this horse's serum has been able to save rats that had previously been inoculated with the virulent cultures. He gives it as his opinion that the plague in its origin is a colon bacillosis of rats caused by the ingestion of rice containing a mold, *Aspergillus orizæ*, and that the colon bacillus by successive passages from rat to rat takes on the characters of the plague bacillus. Dr. Caldas' experiments do not appear as yet to have attracted much attention, but they are certainly suggestive. Our methods in the study of bacteria are not yet perfect and their taxonomic distinctions are far from being yet fully established. It may be difficult or even impossible to fully determine all the specific characters of these minute organisms, but until we do we can not be altogether positive as to their possible varieties and transformations. The identity of the Sanarelli bacillus of yellow fever is a case in point, and it may be mentioned in this connection also that Caldas claims this germ to be likewise a modification of the bacillus coli, the special virulence of which is due to the presence of a mold.

THE BACTERIAL SELF-PURIFICATION OF STREAMS.

Streams may purify themselves in two ways: of the chemical constituents of sewage and of sewage bacteria. The latter mode of self-purification is discussed by Jordan[1] on the basis of observations made during a study of the water of the Illinois river in connection with the newly constructed drainage canal connecting the Chicago river with the Desplaines river. This—a stupendous piece of sanitary engineering—was recently completed at an expenditure of about $35,000,000, and it conducts the sewage of Chicago into the Desplaines and Illinois rivers and finally into the Mississippi. In order to determine the condition of the water of the Illinois river a series of chemical and bacterial analyses of the water of this river and its tributaries was undertaken and carried on regularly during a period of about eight months. Throughout this period about 85 to 90 per cent. of the total sewage of Chicago passed into the

1 Jour. Exp. Med., 1900, v, 271-314. See abstract No. 29, p. 138, THE JOURNAL A. M. A.

Illinois river. Among other results it was found that at a certain point in the Illinois river—between Morris and Ottawa—a change occurred that might properly be regarded as self-purification, because during a stretch of twenty-four miles the river was nearly freed from the mass of sewage bacteria with which it was originally laden, the bacterial content being not greatly in excess of that of the local tributary streams. The cause of this disappearance of sewage bacteria is of interest. Mechanical agitation and aëration, dilution, the action of sunlight, the influence of the plankton, sedimentation and exhaustion of food-supply are discussed in the light of the facts at hand bearing on this particular case. Sedimentation and diminution of food-supply are settled on as the most important factors in the process of self-purification. At the point mentioned the conditions are very favorable for sedimentation, and the chemical analyses show also a marked decrease of albuminous substances, probably through bacterial agency, because there is accumulation at the bottom of foul black mud. Decomposition of large quantities of albuminous substance is first followed by great bacterial multiplication and then "speedy and extreme mortality of bacteria." Bacterial self-purification of streams may be attributed mainly to insufficient or unsuitable food-supply.

THE RELATIONS BETWEEN EPILEPSY AND ACUTE INFECTIOUS DISEASES.

It is a matter of common observation that the occurrence of the seizures in an epileptic is inhibited by acute intercurrent, febrile disease, although, on the other hand, it is equally recognized that, in children especially, eclamptic attacks are frequently observed with the onset of acute illnesses. It will not be maintained that the inhibitory influence in the one instance is more than temporary, while, on the other hand, it seems not impossible that both the frequency and the severity of the seizures in a case of epilepsy may be greater after than before the intercurrent disease, and occasionally acute disease appears to be the starting-point of the epilepsy in a predisposed individual. In harmony with the views expressed, is the experience of Clark and Sharp,[1] who report a series of cases of measles and erysipelas in epileptics in which the convulsive disorder was in no instance favorably modified for any great length of time, but, on the contrary, the progress of the disease was, in a few instances, accelerated by the intercurrent disease, and in one the epileptic status was induced, while in those cases in which the epilepsy appeared to be favorably modified the temporary improvement was slight and of short duration. A notion has prevailed in the past, and its influence has not yet entirely disappeared, that inasmuch as all individuals are likely to suffer from the exanthemata at some time in life they had better be exposed in childhood to mild attacks, but it has been shown that not a few remain immune, while at times the anticipated mild attack proved directly or indirectly disastrous. In view, therefore, of the failure of acute disease to exert a permanently favorable influence on epilepsy, and the possibility that such disease may excite the convulsive disorder or aggravate it if already present, it is the part of wisdom to avoid all risk of the infective diseases on the part of epileptics as well as on that of others. It may be set up as an axiom that no form of disease—with the possible exception of vaccinia—can be safely induced for prophylactic or curative purposes.

1. Medical News, Dec. 1, 1900, p. 853.

Medical News.

CALIFORNIA.

DR. CHARLES D. LOCKWOOD, Chicago, has moved to Pasadena and has opened an office at Los Angeles.

DR. FRANK H. PAYNE, Berkeley, was thrown from his buggy on December 27, and sustained a fracture of the thigh.

DR. J. ELLIS RODNEY, Chico, who was convicted of perjury, sentenced to serve twelve years in the penitentiary, and who appealed to the supreme court, must serve his time, as the court affirmed the decision.

A HOSPITAL, equipped with all modern appliances, will be erected in Ventura by Dr. Cephas L. Bard and his brother, United States Senator Thomas R. Bard, in memory of their mother, Elizabeth Bard. The building will cost about $15,000, and when completed will be presented to the city.

DISTRICT OF COLUMBIA.

THE SITE for the new Municipal Hospital, Washington, which comprises thirty-three acres, has been purchased for $65,000 by the commissioners.

DR. WALTER REED, surgeon U. S. A., has been detailed as the representative of the medical department of the army at the Pan-American Medical Congress at Havana.

ALTERATIONS in the laws of the District are suggested by the District Medical Society to better protect the people of the District against disclosure of confidential information necessarily imparted to their physicians in order to receive proper medical treatment, and to render the general treatment of the office of coroner complete, harmonious and compatible with modern ideas.

ILLINOIS.

CHARLESTON PHYSICIANS have organized a club for mutual benefit and protection, with Dr. Lemuel L. Silverthorn, president, and Dr. Joseph A. Perkins, secretary.

DR. FRANK PARSONS NORBURY, who for the past four years has had charge of the medical department of Oak Lawn Sanatorium, Jacksonville, has resigned. Dr. Norbury will soon open under his own control and management, at Jacksonville, an institution for the private care and treatment of diseases of the brain and nervous system.

THE COMMISSIONERS of the Asylum for the Incurable Insane, at Bartonville, near Peoria, recommend in their annual report appropriations aggregating $669,000 from the legislature at its coming session. Of this, $200,000 is to be used for completing the work now under way, $225,000 for the erection of ten more cottages, and $139,000 for other additions to the institution.

Chicago.

BY THE WILL of the late Charles Higgins, St. Luke's Hospital will receive a bequest of $10,000.

DURING the last week 11 new cases of smallpox have been seen by the Health Department officials, in 8 distinct locations. There are now 15 smallpox patients at the Isolation Hospital.

DURING 1900 the patients of Cook County Hospital numbered 17,429, or 10 per cent. more than in 1899, with a mortality of 1287, or 7.38 per cent. The cost of maintaining the hospital was $268,825.

DR. W. F. ARNOLD, U. S. N., of the local naval recruiting depot, has gone to New York to take examination for promotion. Medical Inspector Ezra Z. Derr, Portsmouth, N. H., is attending to Dr. Arnold's duties during his absence.

THE DETENTION HOSPITAL examined 1727 patients during 1900, 770 of whom were sent to the hospital at Dunning, 113 to Elgin, 179 to Kankakee, 346 were discharged, 18 had escaped from the asylum, and 13 died at the hospital.

THE HEALTH DEPARTMENT claims Chicago as pre-eminently the city of good health, and substantiates its claim by statistics. The death-rate per 1000 per annum in New York City was 21; in Greater New York, 20.57; in Brooklyn, 20.11; in Philadelphia, 19.86, and in Chicago, 14.56.

THE HEALTH COMMISSIONER, in his recent report concerning smallpox, says that vaccination, repeated until it will no longer "take," is an absolute protection against smallpox, and nothing else is; and that the modern practice of vaccination, with sterilized vaccin lymph, under simple precautions of cleanliness, is positively harmless.

A SHARP RISE in mortality marked the closing days of 1900. For the week ended December 29, 554 deaths were reported, 74 more than for the week previous and 100 more than in the corresponding week of 1899. There were 122 deaths from pneumonia, 9 from influenza, which is seriously complicating many other maladies; 47 from consumption, and 34 from violence.

ON JANUARY 7, a society was organized by the faculty of Rush Medical College and will be known as the Medical Society of Rush Medical College. The secretary is Dr. J. B. Herrick, the presiding officer to be selected each evening. The executive committee consists of Drs. Frank Billings, L. Hektoen, J. Clarence Webster, L. F. Barker and the secretary. Meetings will be held monthly.

INDIANA.

THE NEW QUARANTINE HOSPITAL at Indianapolis was opened January 7. The building and equipment cost about $15,000.

LOMAX HALL is to be the name of the $25,000 addition to the Medical College of Indiana, in honor of Dr. Lomax, of Marion, who donated his estate to the college ten years ago.

THE EASTERN INDIANA HOSPITAL FOR THE INSANE at Richmond asks from the legislature an appropriation of $301,000 for the next two years, $62,000 of which is to be used for the erection of two cottages.

IOWA.

DRS. L. W. LITTIG, of Iowa City, William Jepson, of Sioux City and N. C. Morse, of Eldora, have been appointed by Governor Shaw, as commissioners to represent the state at the Pan-American Congress at Havana.

THE OFFICE of Dr. E. H. King, Muscatine, was recently burglarized and an emergency grip taken, containing a roll of surgical instruments, Kelly cushion, operating robes, trays, etc. The following night Dr. Olliver's office was entered and swept bare of instruments. Any parties offering second-hand, or other instruments for sale cheap should be regarded with suspicion.

KENTUCKY.

DR. JOHN L. EVANS, Louisville, is critically ill with abscess of the lungs at Spring Hill, Ala.

THE RESIDENCE of Dr. William Bowman, Toleboro, late consul at Tien-Tsin, China, and state representative and senator, was burned December 12.

THE SUIT for damages of $45,000 for criminal assault, filed December 19 against Dr. William Cheatham, has been dismissed. It was apparently an attempt to obtain hush-money from a reputable physician.

THE QUARANTINE against Greenup County, which was put in force December 23, was raised two days later, the action of the State Board of Health having roused the delinquent fiscal court to action. On Christmas day it held an extraordinary session and adopted a resolution to pay all legitimate bills for physicians' services, nurses, guards, etc., and telegraphed its decision to the State Board of Health, which thereupon raised the quarantine.

MARYLAND.

DR. GRAFTON M. BOSLEY, Towson, one of the oldest physicians in the state, is seriously ill and has been removed to the Church Home and Infirmary, Baltimore.

DR. THOMAS C. BUSSEY, Texas, has been appointed physician to the almshouse and Dr. Richard C. Massenburg, Towson, physician to the jail of Baltimore County.

THE THIRD ANNUAL REPORT of the Peninsula General Hospital, Salisbury, shows that during the year 110 patients were received for treatment, 70 of whom were free patients, and 5 of whom died.

DR. W. S. RICHARDSON, Williamsport, was assaulted in the Traver Hotel, Downsville, by the proprietor for an alleged insult to his wife, December 24. The Doctor's nose was broken, other injuries inflicted and his condition is critical.

THE ANNEX to the Western Maryland Hospital at Cumberland was opened December 28. The expense of this annex was met by the appropriation made last winter of $4000 by the legislature. It consists of a wide corridor connecting it with the main buildings, a large operating room, a sterilizing room, a bathroom, an elevator and four recovery rooms. The operating room is 18x20 feet, is lighted by six windows and by a large skylight. This is the only hospital in Western Maryland and draws from the neighboring parts of Maryland, West Virginia and Pennsylvania.

Baltimore.

HEALTH COMMISSIONER BOSLEY says that a complete sewerage system and infectious diseases hospital are absolute and urgent necessities for the health of this city, and he will use every effort to secure both. The mayor is backing him heartily.

DR. ALFRED R. DOHME has been appointed lecturer on pharmacy at the Johns Hopkins Medical School. Dr. Dohme is an A.B. of the Johns Hopkins University, and after his graduation went to Germany and there graduated as Doctor of Philosophy.

A BOARD, consisting of Col. John M. T. Finney, chief surgeon, 1st Brigade; Major William H. Crim, surgeon, 5th Infantry, and Major S. S. Ullrich, surgeon, 4th Infantry, met at brigade headquarters December 28 to establish a standard of medical examination for recruits for the organized militia, as required by section 14a, militia laws, acts of 1900. The standard of examination will be modeled after that of the United States army.

THE FOLLOWING OFFICERS were elected in the national societies recently meeting here: American Psychological Association: Prof. Josiah Royce, president; Dr. Livingston Farrand, secretary. Society for Plant Morphology and Physiology: Dr. Edward F. Smith, president; Profs. F. C. Newcombe and L. M. Underwood, vice-presidents; Prof. W. P. Young, secretary and treasurer. American Morphological Society: Prof. J. S. Kingsley, president; Prof. E. A. Andrews, vice-president; Prof. T. H. Montgomery, Jr., secretary. American Association of Bacteriologists: Prof. William H. Welch, president; Prof. E. O. Jorden, vice-president; Prof. H. W. Conn, secretary and treasurer.

MINNESOTA.

DAILY INSPECTION of the Minneapolis public schools is assured, as 75 physicians have volunteered their services to the board of education for this work. From these the requisite number will be appointed.

A ST. PAUL undertaker has been arraigned in the police court charged with presenting a death certificate to the board of health which had not been signed by the attending physician, Dr. James S. Gilfillan. The certificate bore the doctor's signature, but he claimed to have no knowledge of the matter.

THE WINONA city council, on December 22, accepted the resignation of Dr. Donald B. Pritchard as a member of the local board of health, and elected Dr. Darwin A. Stewart to fill the unexpired term. A week later Dr. Stewart's resignation was accepted and Dr. Pritchard elected to fill a vacancy in the board.

THE NEW QUARANTINE HOSPITAL at Minneapolis, which has just been opened, is said to be the most complete institution of its kind west of New York. It has accommodation for 48 patients, half in wards and half in private rooms, in addition to the building used for the reception of patients and the use of the hospital staff. The hospital has cost about $16,000.

HEALTH OFFICER FRANKLIN STAPLES writes: In your Minnesota news of last week's JOURNAL, you notice an epidemic of smallpox at Winona. For the next number of THE JOURNAL the revision of the notice should be as follows: Disease decidedly on the decrease. Number of cases reduced is nearly 50 per cent. The disease is of a very mild type, a kind of anomalous smallpox, such as has been prevalent lately in many places and in different parts of the country. Instead of "a few deaths" as erroneously reported, the correct statement is that no deaths have occurred from this cause.

MISSOURI.

CHARLESTON has passed an ordinance prohibiting the sale of cocain and similar drugs.

FREE VACCINATION to all who apply has been volunteered by 12 Kansas City physicians.

THREE CHINESE "DOCTORS" in Kansas City, Wong Sang, Lee Coon Hung and Wong Hay Shine, have been arrested for practicing medicine without a license. The prosecutions were instituted by the State Board of Health.

THE CITY COUNCIL of Louisiana, on account of the prevalence of smallpox, has issued a proclamation prohibiting public gatherings of all kinds and closing the public schools. The health officer, Dr. T. Guy Hetherlin, has resigned on account of the lack of heed paid to his warnings and advice, and Dr. Ira Miller, of Ashburn, has been appointed his successor.

"THE WORLD'S HEALTH INSTITUTE AND COLLEGE OF MEDICINE, SURGERY AND SCIENCE" has been incorporated at St. Louis by a homeopathic physician, two laymen and a physician whose name is not to be found in the directory, with a capital of $50,000, to conduct a health institute, a college of medicine, surgery and science, and incidentally to buy, sell and rent real estate.

THE ST. JOSEPH MEDICAL SOCIETY held a fin de siecle meeting and banquet December 31. About 50 guests were present. Dr. Jacob Geiger presided as toastmaster; Dr. Thomas H. Doyle spoke on "St. Joseph's Pioneers in Medicine"; Dr. Pierre I. Leonard, on "Medicine of the Future"; Dr. John M. Bell reviewed the history of the St. Joseph Medical Society, and Dr. Charles Wood Fassett responded to the toast, "The Medical Press."

MONTANA.

POST-SURGEON GIBSON and his wife were injured while driving near Fort Harrison, Helena, December 24. Dr. Gibson was badly bruised and had his shoulder dislocated, and Mrs. Gibson had a dislocation of the elbow.

DR. DANIEL L. CARMICHAEL, Helena, has renewed his contract as physician of Lewis and Clarke County at a salary of $1800 per annum. In consideration of this he agrees to attend the sick at the poor farm, county jail, all sick poor within two miles of the city and all smallpox patients.

THE COMMISSIONERS of Silver Bow County have adopted a sure way of forfeiting the respect and losing the co-operation of the physicians of the county. In reply to the protest of the county medical association against the lax methods employed in dealing with smallpox, which is epidemic there, the commissioners admit that the sanitary conditions are bad, but charge the physicians with being partially responsible for the prevalence of the disease, in that they have ignored the health laws and treated smallpox patients in secret. About the same time that this reply was being formulated, a request was made to the board to put an infected house in a thickly populated district under quarantine, but the board refused to do so.

NEW MEXICO.

COAL MINERS are bringing influence to bear to locate the hospital for miners at Gallup. The hospital tax on miners, which began October 1, will amount to $1000 per month.

DR. PERCY G. CORNISH, surgeon-in-charge of the Santa Fe Pacific railroad hospital at Albuquerque for the last four years, has resigned and has been succeeded by his assistant, Dr. John M. Elder, whose place will be filled by Dr. Raymond Russ, of Los Angeles, Cal.

THE SANATORIUM for consumptive seamen at Fort Stanton has been a success thus far. In the first eighteen months of its existence 92 patients were admitted from the various marine hospitals, 12 of whom were discharged as recovered, and 15 as improved. Eleven patients died.

NEW YORK.

THE SUPERVISORS of Albany County have elected Drs. Arthur Sautter and Mark S. Lavy, Albany, Edward M. Bell, Cohoes, and Martin S. Reid, Coeymans, coroner's physicians at a salary of $600 a year.

ON OCTOBER 1, 1900, there were 22,088 inmates in the various state hospitals, an increase of 653 over 1899. The average increase has been about the same for the past five or six years. The expenditure per capita was $165.38.

THE PHYSICIANS of Schenectady objected so strenuously to the action of the General Electric Company in securing a physician from Albany to vaccinate the 5000 employees of the company, that the Albany physician asked to be relieved, and a Schenectady physician was employed.

HEALTH OFFICER GOLER, of Rochester, announces that for the past two months there has been, on an average, one new case of rabies in dogs reported each day, and the situation is becoming alarming. Autopsies and laboratory experiments have proved beyond all doubt that it is true rabies.

CORTLAND is the center of an epidemic of typhoid fever. The city hospital is full of patients and the management is compelled to turn applicants away. Many factories and business houses are crippled because of the illness of the employees. The cause of the epidemic has not yet been determined.

THE CHAIRMAN of the Senate Committee on Finance held a conference in Buffalo recently with Senator Henry W. Hill and Dr. John H. Pryor, concerning the completion of the state consumption hospital in the Adirondacks. The result of the conference was that the committee will add the item of $200,000 necessary to complete the building, to the annual appropriation bill. The trustees of the hospital have selected a second site for the institution at Raybrook, between Saranac Lake and Lake Placid, and not far from the Lake Clear site, which was first selected.

GOVERNOR ODELL, in his first message to the state legislature, calls attention to the state board of health, which consists of three commissioners appointed by the governor. The duties are such that one competent man, giving his entire time thereto, he thinks, might easily perform them, provided that the supervision of tuberculosis and glanders in cattle were transferred to the department of agriculture, where it properly belongs, thereby removing the necessity for a large office force at corresponding expense. This change is suggested with a recommendation of affirmation by the legislature.

Buffalo.

DR. FREDERICK H. MILLS, of this city, has been appointed acting assistant-surgeon in the army, and has been ordered to the Philippines.

OF THE thirty physicians in New York whose names appear on the list of those eligible for positions in state institutions, nine reside in Buffalo.

INFLUENZA is prevalent in Buffalo. The disease is characterized by a high range of temperature, and is principally of the respiratory type. Many pupils are prostrated and between fifty and sixty school teachers are unable to attend to their duties. In some instances entire families have been attacked.

New York City.

IT IS ESTIMATED that a million persons have been vaccinated in Greater New York since an epidemic of smallpox threatened.

BY THE WILL of the late Henry Villard, Dobbs' Ferry Hospital Association receives a bequest of $50,000, and New York Infirmary for Women and Children, $5000.

THE HEALTH BOARD has recommended to Commissioner of Charities Keller that a new ward be established at Randall's Island solely for the accommodation of children with contagious diseases.

THE REPORT of the committee on the library of the New York Academy of Medicine shows that on Nov. 30, 1900, the library contained 89,000 volumes. During the year, 3649 volumes were added; 971 books and 832 journals were issued to 194 readers. There were registered 11,520 readers during the year.

THE EXTREMELY high mortality among the infant charges of the city has engaged the attention of the commissioner. The mortality among the children on Randall's Island for 1899 was 45.05 per cent., and for the first nine months of 1900, 46.67 per cent.

A FEW CASES of smallpox continue to develop in widely separated sections of the city. So far, there have been 84 cases in the Borough of Manhattan, 2 in Brooklyn, and 5 in the Bronx, and of this number 3 have terminated fatally. There are now 61 cases isolated on North Brother Island.

OHIO.

YOUNGSTOWN is to have a new hospital, to cost from $150,000 to $200,000, the entire cost being defrayed by Myron C. Wick and his family.

DR. OLIVER W. LINDSAY, Columbus, has resigned as secretary of the Health Department, and taken up his work as coroner of Franklin county.

THE CINCINNATI ACADEMY OF MEDICINE has presented to Congress a protest against any reduction in the Medical Department of the army, below the other staff corps.

DR. ALBERT E. WARREN, Youngstown, is reported critically ill at Hot Springs, Ark., the result of an infected wound received during an operation several months before.

THE CHARGES against five women and one man in Cincinnati, of unlawfully practicing medicine, have been withdrawn, as the accused have complied with the law, registered with the state board of examination, and have been granted permission to practice.

PENNSYLVANIA.

LANCASTER is to have medical inspection of the public-school children.

THE TRUSTEES of the State Hospital for the Insane at Norristown met January 4, cast 21 ballots without result, for a successor to Dr. Tabor and adjourned till January 18.

AN EPIDEMIC of typhoid fever prevails at North Bend, near Renovo, where 11 cases have been found. It was discovered that these persons had used water from a spring near which there had been a case of typhoid fever.

Philadelphia.

DR. CHARLES S. TURNBULL has been appointed major and surgeon of the First Regiment of Pennsylvania.

THROUGH THE WILL of Mrs. Anna Stickler of Camden, N. J., the Methodist Hospital of this city has been left $5000.

A BEQUEST of $15,000 has been made to the Orthopedic Hospital through the will of Ruth Anna Cope, and $1000 was given to the Germantown Hospital.

AT A RECENT meeting of the College of Physicians a life-size oil painting of the late Dr. Joseph Leidy was presented to the college by Mrs. Joseph Leidy, Jr. An autograph letter to Dr. Leidy from Professor T. H. Huxley was also presented to the college. The gifts were received on the part of the college by Dr. S. Weir Mitchell.

IN A RECENT letter to a member of the common council, Dr. John V. Shoemaker presents the needs of the Philadelphia Hospital in rather strong terms. He stated that in one instance 88 children were housed in the hospital together with adults, a condition which is to be deplored from a moral standpoint if for no other. Dr. Shoemaker also made an earnest plea for the erection of a children's hospital in connection with the Philadelphia hospital.

A DETERMINED EFFORT is being made by the Philadelphia County Medical Society, the Society for the Prevention of Tuberculosis, and other organizations, to have tuberculosis placed under the compulsory registration law. Looking toward this end, committees of the above societies have appeared before the board of health for the purpose of urging immediate action. What is mainly desired is to know just where the infected houses are located, so that the proper literature and instruction may be sent to the persons affected.

CORONER DUGAN states that 2679 inquests were made during the last year, of which 1605 were on white males, 831 on white females, 129 on colored males, and 117 on colored females; 4 were on Mongolians. This is an increase of 120 over the previous year. The principal causes of death were: Injuries, 650; scalds and burns, 160; heart disease, 317; drowning, 92; electric shock, 9; falling or jumping from windows, 18; heat stroke, 61; suffocation from illuminating gas, 43; accidental poisoning, 21; homicides, 35; 173 persons committed suicide. The principal agencies were as follows: hanging, 34; shooting, 40; illuminating gas, 31; laudanum, 15; carbolic acid, 21; cutting and stabbing, 15; drowning, 13; jumping from windows, 5; corrosive and arsenical poisoning, 12. There were 133 deaths from injuries due to steam cars, and 35 deaths from trolley cars.

TENNESSEE.

THE SEWANEE MEDICAL SCHOOL, on December 21, graduated 101 students in medicine.

THE HOUSE of Dr. Goleman D. Sullivan, at Sullivans, Mason county, was burned December 26.

DR. JOHN H. HARRIS, Gadsden, sustained a loss of $800 by a fire December 24, which destroyed his office, medicines and instruments.

LYNCHBURG has elected Dr. Edward M. Dance, a member and ex-officio president of the board of health, and Dr. Thomas H. Woods, alternate member of the board and ex-officio president pro tempore.

DR. JAMES A. ALBRIGHT, Nashville, secretary of the State Board of Health, has issued a circular letter to county health-officers stating the smallpox situation, urging vaccination and suggesting that negroes be vaccinated with the hypodermic needle in order that the virus may not be wiped off or the vaccination otherwise rendered ineffectual.

TEXAS.

DR. ALEXANDER H. DAVIDSON, Boerne, has been appointed physician of Kendall county, and Dr. Arthur F. Newberry, Hallettsville, re-appointed health officer of Lavaca county.

THE DEMOCRATIC CONVENTION at Waco passed the following resolution: "Resolved, That we favor the creation of a State Board of Health with the provision for the collection of vital statistics of the State, as provided for by the Constitution, Article 16, Section 32, and the enactment of laws to distribute the expenses of improvements of quarantine equitably between the State, counties and municipalities."

WISCONSIN.

RIVERSIDE HOSPITAL, Wausau, was damaged by fire, December 26, to the extent of $6000. The patients were all removed in safety.

AN ADDITION to St. Luke's Hospital, Racine, is to be erected by Mr. and Mrs. William Horlick, in memory of their daughter, which will be known as the "Alice Horlick Memorial." The proposed building will nearly treble the capacity of the hospital.

THE STATE BOARD OF MEDICAL EXAMINERS has submitted its biennial report to the governor. During the last two years the receipts from licenses, registrations and examinations were $8772.52, and the expenses, $7909.21, leaving a balance of $863.31, which has been deposited in the state treasury.

UTAH.

DR. OLIVER S. ORMSBY, Logan, has resigned as a member of the State Board of Medical Examiners, on account of removal from the state.

THE ATTORNEY-GENERAL holds that the State Board of Health has power to enforce the order excluding unvaccinated pupils from public schools in the state.

THE ORDER requiring vaccination of children or their exclusion from school has been made operative in nineteen towns in the state, including Salt Lake City and Ogden.

A PHRENOLOGIST of Salt Lake City, charged with practicing medicine without a license, was found not guilty, although evidence was presented that he had prescribed medicine. He, however, claimed that he had made no charge for the medicine, but had charged $10 for a phrenological chart.

GENERAL.

HAVANA reported last week that no case of yellow fever existed among the Americans, and that there were in Luas Guamas Hospital only 10 persons, all Spaniards, suffering from the disease.

DR. J. A. NYDEGGER, passed asst.-surgeon, has arrived at San Francisco from the Philippines, where he has been on quarantine duty. He was taken ill and has been ordered to report to the Chicago Marine-Hospital for duty.

THE AUTHORITIES at Dawson, Yukon, have telegraphed to the outside for 10,000 more vaccin points for use in enforcing the compulsory vaccination ordinance passed recently, to have effect throughout Yukon territory. There are now 2500 points on the way there, making a total of 12,500 ordered.

DR. J. H. RAYMOND, formerly an instructor at Rush Medical College, has been appointed president of the Honolulu Board of Health in place of C. B. Wood, M.D., resigned. After about a year's absence in Chicago and San Francisco, he has resumed practice in partnership with Dr. W. J. Galbraith, formerly of Omaha.

THE SURGEON-GENERAL of the Marine-Hospital Service has caused to be prepared by one of the medical officers of the service a new edition of the handbook of the ships' medicine chest, a small volume written in as plain language as possible for the use of shipmasters and others on board vessels not carrying medical officers. The book is also used at United States life-saving stations.

THE CHICAGO MEDICAL SOCIETY, at a meeting held Jan. 2, 1901, adopted the following resolutions: Resolved, that it is the sense of this society that pathological specimens, which are now taxed at 20 per cent. on the cost of their production, should be admitted duty free, as they are used exclusively for scientific purposes and are of no commercial value. Resolved further, that a copy of this resolution be transmitted to each senator from this state and to each member of Congress from this city.

GOVERNMENT PROVIDES AGAINST DISEASE EPIDEMIC IN THE SOUTH.

The United States Government has just equipped in Florida and placed in readiness for any emergency the largest detention camp in this country. Surgeon-General Wyman states that the camp ground consists of 100 acres of land located on a high bluff on the south side of St. Mary's river, 2½ miles from Boulogne, Fla., and some four or five miles from Folkstone, Ga. On the grounds are a disinfection and warehouse building, two dining-rooms with a seating capacity of 600 people each, a kitchen and storeroom. In the shape of permanent constructions there are officers' quarters. Stored in the two unused dining-rooms are 500 tents, which are capable of easily accommodating 2000 people, should such an emergency arise. Arrangements have been made for the disinfection of all sewage from camps before it is discharged into the river, so that there will be no danger of an outbreak among people drinking the river water below.

PAN-AMERICAN MEDICAL CONGRESS.

The sessions of the sections of the congress will begin on the morning of February 4, in the halls of the University and Institute. In the evening the formal opening ceremonies of the entire Congress, a general session, will take place at the Tacon theater, at which the various representatives of the different countries will be introduced, and speeches of welcome will be made by the officers of the Congress, as well as by the civil authorities. On the second day, scientific sessions of sections will take place; in the evening there will be an entertainment given to the delegates and their families by the City Council of Havana. On the third day, scientific sessions of sections will be in the morning as usual; in the evening a general session dedicated to scientific discourses. On the fourth day session meetings will be held; in the evening a closing general session in which the officers of the Congress will participate. General Wood, the governor-general of Cuba, formerly surgeon in the U. S. Army, will give a reception to the delegates, probably the day before the opening of the Congress. He will also give orders that the fortifications of the island be shown to the delegates. The insignia or medal of the delegation will be made of silver. On one side will be written, "The

Pan-American Medical Congress, Havana, 1901." on the other side, will be the coat of arms of Cuba, beneath which the word Cuba is written.

FOREIGN.

DR. EDWIN KLEBS, for the last four years professor at Rush, Chicago, has settled at Munich since his return to Germany.

THE *Mucnch. Med. Woch.* states that the German Medical Tribunal of Honor has decided that continuous advertising in the lay press is unworthy of the profession, and has consequently imposed a heavy fine on a number thus advertising.

DR. CHAPOT PREVOST, who performed the operation on the xiphopagus monster, has been awarded 40,000 milreis by the Brazilian government as a prize bestowed by the nation and to defray the expenses of his trip to Europe to demonstrate the surviving twin in scientific circles. This sum is normally equivalent to $21,900, and even in the depreciated condition of the currency amounts to about $4000.

A PRESS dispatch from Vienna states that the entire corps of physicians connected with the Lemberg and Cracow hospitals threaten to strike January 12. They demand an increase of salary. At present they are paid on the scale fixed in the reign of Maria Theresa, in 1760. These salaries include such old-fashioned and obsolete perquisites as ten tallow candles monthly.

THE *Bibliographia Medica* has commenced the publication of special editions restricted to a single branch of science, six in all. The first contains the bibliography of anatomy, physiology and the veterinary art, to cost ten francs or $2 a year. The others include medicine, general and special, thirty francs; surgery, general and special, twenty francs; gynecology, obstetrics and pediatrics, fifteen francs, and therapeutics, pharmacy and materia medica, ten francs. The complete edition costs fifty to sixty francs. A complete alphabetical index will be furnished with each special edition for two francs extra, at the end of the year.

THE ANNUAL distribution of prizes at the Paris *Academie de Medecine* occurred December 18. No papers were received from an American author and no articles from any source for five of the prizes. Pagano, of Palermo, was awarded a prize of 1200 francs for his work on the "Sensibility of the Heart and Vessels," and an Alexandria physician received a portion of another prize for his study of the plague in 1899 at his city. The Japanese author whose study of immunity to tuberculosis was reviewed in THE JOURNAL, December 29, p. 1690, and Heresco of Bucharest each received a portion of a prize, the latter for his work on "Surgical Intervention for Tumors of the Kidney." With these exceptions all the prizes were awarded to French authors, which includes Dr. Matignon at Pekin. An hour or two before the session fire broke out in the famous library adjoining the hall, but was soon controlled.

Correspondence.

Foreign Bodies in the Ear.

BINGHAMTON, N. Y., Jan. 5, 1901.

To the Editor:—I write to add my experience in the management of the above cases. A boy was brought to me with a grain of corn in his ear, which had defied all the efforts at removal made by his parents and friends. It had been lodged there for several days. The external ear was swollen to perhaps double its normal size, and the tumefaction of the tissues was such that the auditory canal was nearly closed. Only a small portion of the surface of the grain of corn could be seen. The parts were much inflamed and the tenderness was acute, that no manipulations or instrumental efforts could be made without an anesthetic. I was, however, able to achieve a most gratifying success by the use of a continuous jet of warm water thrown gently against the ear by a Davidson's syringe, until at last, under these measures the tissues relaxed to such an extent that some of the water ultimately passed behind the kernel of corn, and it was carried out by the returning current.

I have always regarded the use of water poured in the ear as the best mode of removing a live insect. On one occasion during my army service I was called at night to see a soldier in whose ear a hard-shelled beetle had crawled. The insect was so large that its body filled the auditory canal. I seized the outer extremity with a dressing forceps, but they slipped off; the insect's movements made the soldier scream with pain. Close by was the soldier's canteen of water; from it I poured some water into the ear and the invader immediately retreated rear-foremost. J. M. FARRINGTON, M.D.

Goat Lymph.

WESTBORO, Mass., Dec. 24, 1900.

To the Editor: I send herewith a letter recently received which may be interesting to your readers. I thought this communication would inform the medical profession that if there is anything of value in goat-blood serum it can be obtained through regular channels and at a moderate price. By reference to Abbott's "Bacteriology" any physician can prepare his own serum very readily. The expense of a healthy young goat is only about three dollars. W. T. PARKER, M.D.

W. T. Parker, M.D., Westboro:—We have before us your esteemed communication of the 26th inst., advising us to place a goat-blood serum upon the market as a substitute for the goat lymph which is being so extensively advertised as a remedy for chronic diseases. In reply we beg to say that while we do not mention in our catalogue a serum of this kind, we are prepared to supply it upon special requisition, at the rate of $1 per bulb of 10 c.c., or $2.75 per ounce. The serum has been available to the medical profession about a year now; and while we do not make any therapeutic claims in its behalf we think it probable that it will accomplish as much as the lymph to which you refer. We do not consider this a very extravagant claim, for the reason that we have little or no faith in the virtues of the "lymph." Physicians who are interested in experiments on the goat as a therapeutic resource, will find our serum suited to their purpose, at least for a time; they will have the satisfaction of knowing what they are using, as the preparation can be duplicated by any competent biologist who has a healthy goat in his possession. . . . Thanking you sincerely for your suggestion and offer of assistance, and trusting that if you decide to experiment with goat serum you will specify our product and obtain results worthy of publication, we remain, with best regards, very truly yours,

PARKE, DAVIS & CO.

Higher Medical Education and the State University of Iowa.

IOWA CITY, Jan. 7, 1901.

To the Editor:—Knowing your efforts for the advancement of medical education, I believe that you will be interested in hearing that the faculty of the College of Medicine of the State University of Iowa has decided to extend the course to four years of nine months each, the length of the session to be thirty-eight weeks, or thirty-six weeks exclusive of vacations. Last year the Board of Regents granted permission to make such a change in 1902, but by a unanimous vote the medical faculty requested that it might go into effect a year earlier. It has not been the experience of the faculty that an increase in work is followed by a decrease in attendance, as the places of such students as are frightened away are filled by the more desirable material which goes, not where a diploma is the easiest to be obtained, but where the fullest instruction appears to be offered; nevertheless the opinion fully prevails that quality is preferable to quantity and that the college must be kept among the leaders even if the enrollment suffers. The requirements for admission have for some time been the same as for entrance to the College of Liberal Arts of the University, and all preliminary examinations are conducted by the University Examiner, whose certificate alone can give admission. Yours very truly, E. W. ROCKWOOD, M.D.

Association News.

Proposed Legislation Affecting Medical Corps of the U. S. Army.

To the Members of the AMERICAN MEDICAL ASSOCIATION: Your attention is called to the fact that there is at present pending in Congress certain proposed legislation that seriously disturbs the present status and efficiency of the medical corps of the United States army.

The proposed law is entitled: "An Act to Increase the Efficiency of the Military Establishment of the United States"—Senate Bill 4300—and in a general way modifies the existing organization of the army, while at the same time it provides for a damaging and offensively invidious discrimination against

the medical corps. This fact is shown in the following particulars, viz:

1. It decreases the percentage composition of the corps in the grades of colonel from 3.1 per cent. to 2.4 per cent.

2. It changes the percentage composition of the corps in the grade of lieutenant-colonel from 5.2 to 5.7 per cent.

3. It decreases the percentage of composition of the corps in the grade of major from 26 per cent. to 18.6 per cent.

4. It increases the percentage composition of the corps in the grade of assistant-surgeon with the ranks of captain and first lieutenant from 65 per cent. to 74.7 per cent.

The significance of these proposed changes can be understood when it is remembered that even under the existing law it requires more than eighteen years to reach the grade of surgeon with the rank of major, while under the proposed law it will require at least twenty-five years to reach the same grade and rank. With this fact reduced to a mathematical demonstration, the inevitable result will be: 1, that the more worthy young men will not apply for commission, and 2, that the relatively less worthy men who do enter the service, discouraged by the certain impossibility of reasonably prompt promotion, will resign, leaving their places to be filled by untrained and consequently less efficient men. The ultimate disaster from this contemplated change, however, will consist not alone in a lowered status of the medical service, but in 1, increased disease and death-rate among the men, 2, a diminished and otherwise weakened force on the firing line, and 3, a material augmentation of the pension roll.

In view of the foregoing facts, and in view of the fact that every other corps of the army is better graded than is the medical, every member of the AMERICAN MEDICAL ASSOCIATION and every member of the medical profession is hereby earnestly solicited to send at once to his United States senator and congressman an urgent and emphatic protest against provisions in Senate Bill 4300, relative to the medical corps of the United States army. [Signed] CHAS. A. L. REED,

President of the AMERICAN MEDICAL ASSOCIATION.

Cincinnati, Dec. 29, 1900.

New Members.

The following is a list of new members of the A. M. A. for December, 1900:

ALABAMA.
Hixon, Frank P., Perote.
Lewis, C. Morris, Birmingham.
Bennett, Benj. F., Louisville.
Stovall, Andrew McA., Jasper.

ARIZONA.
Claypool, S. Barclay, Globe.

ARKANSAS.
Canfield, Herbert H., Siloam Springs.
Hankison, O. C., Pine Bluff.
Ellis, G. S., Helena.

CONNECTICUT.
Crossfield, Frederick S., Hartford.
Dickerman, Wilton E., Hartford.
Bunce, Philip D., Hartford.
McKee, Robt. S., New Haven.

CALIFORNIA.
Vogel, C. W., San Francisco.
Dial, E. A., San Luis Obispo.
Colliver, John A., San Francisco.

COLORADO.
Grissom, Eugene, Pueblo.

FLORIDA.
Mitchell, Neal, Jacksonville.

DISTRICT OF COLUMBIA.
Savage, L. S., Benning.
Dowling, Thos., Washington.

GEORGIA.
Coile, Frank W., Winterville.
Eberhardt, L. Pope, Elberton.

ILLINOIS.
Archer, I. J., Chicago.
Freer, Otto P., Chicago.
Jacobs, John M., Chicago.
Lacy, Hattie E., Chicago.
Kunz, Sylvan, Chicago.
Strueh, Carl, Chicago.
Knoblauch, Jos. I., Metamora.
Smith, J. W., Chicago.
Sargent, Edw. E., LeRoy.
DeSilva, Jos., Rock Island.
Adams, W. W., Atkinson.
Douglass, W. W., Hillsboro.
Lovell, Frank B., Gibson City.
Miller, Andrew D., Sullivan.
Markley, P. L., Rockford.

IOWA.
Dyer, Benj. G., Gilbert Sta.
Fuller, Q. C., Milford.
Cleaves, J. H., Council Bluffs.
Carpenter, M. C., Fairfield.
Derwent, Albert E., Lamoni.
Harrison, E. W., Winfield.
Garver, John E., Storm Lake.
Cook, Clarence P., Otley.
Wedel, J. R., Vincennes.
Williams, Cora B., Marshalltown.
Grimes, W. S., Wapello.
Stoner, A P., Des Moines.
Engle ,Theo., State Center.
Kincard, Geo. E., Muscatine.

INDIAN TERRITORY.
Reeder, C. L., Tulsa.

IDAHO.
Loder, Wm. F., Salubria.

INDIANA.
Stout, O. L., Upland.
Davidson, J. F., Crawfordsville
Butterworth, Chas . M., South Bend.
Ferguson, Frank C., Indianapolis.
Sharrer, H. E., Hammond.

KANSAS.
Schenberger, S. W., Industry.
Meade, R. H., Great Bend.

KENTUCKY.
Robbins, Felicia V., Olive Hill.

LOUISIANA.
Thornhill, Francis M., Arcadia.
Lawton, W. B., Mira, Caddo Parish.

MARYLAND.
Broadup, G. L., Cumberland.
Micheau, Ellis, Baltimore.
Fisher, S. G., Pt. Deposit.

MASSACHUSETTS.
Walker, Augustus C., Greenfield.
Shores, Harvey T., Northampton.
Nicolla, C. C., So. Lancaster.
McNair, R. H., Longmeadow.
Tallman, A. L., East Boston.
Houston, J. A., Northampton.
Jackson, Henry, Boston.
Elmere, J. Alfred, Boston.
Hewitt, C. E., Springfield.
Dolan, Wm. A., Fall River.
Meigs, J. V., Lowell.
Bowditch, Vincent Y., Boston.
Twombly, Edw. L., Boston.
Whitmore, Albert S., Suffolk.
Howland, Joseph B., Tewkesbury.
Abbe, Frederick R., Dorchester, Boston.
Porter, Chas. A., Boston.
McCollom, John H., Boston.
Daly, Timothy J., Lawrence.
Cahill, J. T., Lawrence

MICHIGAN.
Jones, Bernard W., Vulcan.
Jenks, Nathan, Detroit.
Conner, Samuel E., Port Huron.

MINNESOTA.
Chambers, Carlos L., Kasson.
Lum, Clarence E., Duluth.
Sullivan, M., Adrian.
Heiberg, Adolph O., Rushford.
James, John H., Mankato.
Swartz, W. J., Minneapolis.
Knickerbocker, Frank H., Staples.
Hill, Arthur L., Monticello.
Burnside, Foster, St. Paul.
Workman, H. E., Tracy.

MISSISSIPPI.
Wissinger, W. S., Hernando.
Robertson, Wm. W., McComb City.
Thomason, J. W., Arkabutha.

MISSOURI.
Underhill, W. W., St. Louis.
Chowning, Thos., Hannibal.
Cole, R. King, Sedalia.

NEBRASKA.
Hoover, Jonas, Bennet.

NEVADA.
Mangan, Patrick J., Cortez.

NEW HAMPSHIRE.
Williamson, W. D., Gorham.
Axtell, John F., Newton.
Cain, Wm. G., Epping.

NEW JERSEY.
Brouwer, Frank, Toms River.

NEW YORK.
Moore, Richard M., Rochester.
Seifert, Carl F., New York City.
Brannan, John W., New York City.
Pederson, V. C., New York City.
Fuller, Eugene, New York City.
Murray, Francis W., New York City.
McGinnis, E. L'H., New York City.
LeBoutillier, W. G., New York City.
Butts, H. H., New York City.
Foote, S. K., New York City.
Lambert, Alex., New York City.
Hofheimer, J. A., New York City.
Wallin, Mathilda K., New York City.
Beaudoin-Bennett, Mortimer R., New York City.
Robinson, Wm. J., New York City.
Zwisohn, L. W., New York City.
Gulick, Luther, New York City.
Dennis, Frederic S., New York City.
Harvie, John B., Troy.
Kinnear, Beverley, O., Clifton Springs.
Dwyer, John, New York City.
Sheehan, Daniel J., New York City.
Siefort, Carl F., New York City.

NORTH CAROLINA.
Egerton, Jas. L., Hendersonville.
Purefoy, G. W., Asheville.

NORTH DAKOTA.
Bacharach, Harvey, Finley.

OHIO.
Bliss, T. F., Springfield.
McCoy, Jos. J., Steubenville.
Slagle, Chas. D., Centerville.
Pontius, Maria G., Canton.

PENNSYLVANIA.
Read, A. H., Norristown.
Seiple, W. G. M., Lehighton.
Summerville, H. B., Rimersburg.
Hutchinson, H. A., Dixmont.
Disque, T. L., Pittsburg.
Johnston, Jas., Bradford.
Rocap, Wm. A., Olney, Philadelphia.
Steim, Charles J., Pittsburg.
Rice, Daniel S., Hastings.
Burkhart, E. J., Johnstown.
Shank, O. J., Windber.
Carlisle, H. L., Windber.
Alter, Jos. G., New Kensington.
Kelso, J. S., Woodland.
Hunter, W. L., Turtle Creek.
Shupe, M. B., Connellsville.
Armstrong, Wm. J., Kane.
Noeson, F. T., Bear Lake.
Thompson, Benjamin, Landenberg.
Hall, George B., Cartwright.
Bower, Ernest Z., Scranton.
Price, B. Frank, Braddock.
Feidt, W. W., Williamstown.
Bilhelmer, John J., Priceburg.
Brown, John W., Pittsburg.
Staller, Max, Philadelphia.
Essig, Chas. J., Philadelphia.
Wilson, Richard, Philadelphia.

RHODE ISLAND.
Akers, J. H., Providence.
Jewett, Fred B., Howard.
Morrison, Wm. F., Providence.

SOUTH DAKOTA.
Tufts, Arthur H., Sioux Falls.

TENNESSEE.
Francis, Elmer E., Memphis.
Reeve, Nathan H., Bristol.

TEXAS.
Zvesper, John S., Ammannsville.
Shell, W. T., Corsicana.

VERMONT.
McSweeney, Patrick E., Burlington.
Maynard, Samuel E., Burlington.

VIRGINIA.
Hancock, F. H., Pinners Point.
Rucker, E. T., Manchester.
Starkweather, C. L., Occoquan.
Cooke, Geo. W., Danville.

WISCONSIN.
Hedback, Azel E., Barron.
Nott, Geo. W., Racine.
White, Adam G., Milwaukee.
Stevens, Frank E., Bristol.
Hebard, Chas., Mondovi.

Marriages.

J. GEORGE DEMPSEY, M.D., to Miss Le Besque, both of New Orleans, December 12.

HARRY R. SPICKERMAN, M.D., to Miss Fay Ogle, both of Muncie, Ind., December 25.

DULANIA S. WIGGINS, M.D., Losantville, Ind., to Miss Kate Moreland, Ind., December 24.

J. N. POER, M.D., West Point, Ga., to Miss May Belle Bonnell, Oxford, Ga., January 2.

JOHN W. MAGUIRE, M.D., to Mrs. Bianca St. John, both of Hutchinson, Kas., December 24.

R. PERCY SMITH, M.D., Baltimore, Md., to Miss Martha Elliott, Towson, Md., January 8.

FRANK ROGERS RICH, M.D., to Miss Francis Louise Yellott, both of Towson, Md., January 1.

SANDERS L. SWYGERT, M.D., Phoenix, S. C., to Miss Myrtis Wells, of Greenwood, S.C., December 20.

AUGUSTUS JEROME THOMAS, M.D., to Miss Edith Lee Diamond, both of New Orleans, December 19.

WILLIAM W. WHITNEY, M.D., Union, N. Y., to Miss Bertha L. Robinson, of Binghamton, December 27.

B. W. TOOTHAKER, M.D., Westmoreland, Kas., to Miss Esther A. Schroer, of St. Joseph, Mo., December 26.

WILLIAM J. HODGES, M.D., to Miss Helen Asher, both of Pineville, Ky., at Jellico, Tenn., December 28.

WILLIAM IVAN SENKLER, M.D., Vancouver, B.C., to Miss Leila Mackay, of Toronto, Ont., December 19.

R. B. LAYMAN, M.D., South Knoxville, Tenn., to Miss Margaret Pitner, Trundle's Cross Roads, Sevier county, Tenn., December 25.

Deaths and Obituaries.

LOUIS SCHNEIDER, M.D., Kentucky School of Medicine, Louisville, 1865, a prominent physician of Williamsport, Pa., president of the Lycoming county medical society in 1888, at his home, from pneumonia, December 29, aged 56.

WILLIAM H. BEHLE, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1881, a member of THE AMERICAN MEDICAL ASSOCIATION, from blood-poisoning, December 28, at his home in Salt Lake City, Utah, aged 52.

AUGUSTINE R. BOOTH, M.D., University of Louisville, 1874, surgeon in the United States Marine-Hospital Service, at Shreveport, La., after a lingering illness, December 27, aged 56.

ALPHARIS E. RUNDELL, M.D., Medical College of Evansville, Ind., 1874, formerly of Center Point, at his home in Brazil, Ind., from Bright's disease, December 28, aged 50.

JOHN DELAMATER, M. D., Castleton Medical College, Castleton, Vt., for many years a practitioner at Brooklyn, Mich., suddenly, at Jackson, Mich., December 30, aged 80.

B. RICHARDS, M.D., Jefferson Medical College, Philadelphia, 1850, at his home "Tuckoman," King William County, Va., from cancer of the face, December 25, aged 78.

MORTIMER L. SLEEPER, M.D., Dartmouth Medical College, Hanover, N. H., 1876, at his home, West Burke, Vt., from diabetes mellitus, December 24, aged 48.

WILLIAM A. PALMER, M.D., St. Louis College of Physicians and Surgeons, 1879, after a protracted illness at his home in Russell, Iowa, December 20, aged 50.

WILLIAM DUNCAN, M.D., Savannah Medical College, 1861, a member of THE AMERICAN MEDICAL ASSOCIATION, at his residence, Savannah, Ga., December 27.

WILLIAM C. JONES, M.D., Bellevue Hospital Medical College, New York, 1870, at his home in Grass Valley, Cal., from paralysis, December 28, aged 67.

A. B. DENISON, M.D., Starling Medical College, Columbus, Ohio, 1867, of Shauck, Morrow County, Ohio, December 28, after a long illness, aged 63.

SAMUEL W. COLLINS, M.D., University College of Medicine, Richmond, Va., 1898, of Varina, Va., suddenly from heart disease, December 26, aged 30.

JOSEPH W. PUGH, M.D., Kentucky School of Medicine, Louisville, 1880, at his home in Alexandria, Ind., after a long illness, December 28.

BYRON B. LOUGHEAD, M.D., Western Reserve University, Cleveland, Ohio, 1877, at his home, Ravenna, Ohio, December 25, aged 53.

ISAAC MAYFIELD, M.D., Medical College of Ohio, Cincinnati, 1870, at his home, Randolph, Kas., from paralysis, December 25, aged 86.

JOHN WHITTAKER, M.D., Washington University, St. Louis, 1862, at his home, Camden, Ohio, from paralysis, December 24, aged 73.

CHARLES MCKILLEN, M.D., Medical College of Indiana, Indianapolis, 1873, from apoplexy, at his home in Camden, Mich., aged 51.

HARVEY H. BUHRMAN, M.D., University of Maryland, 1862, of Foxville, Frederick County, Md., January 2, aged 61.

CHARLES CARROLL, M.D., Memphis University Medical College, 1889, at his home, Riverside, Texas, December 27.

THOMAS O. WALTON, M.D., New York University, 1862, at Annapolis, Md., suddenly, December 21.

HIRAM C. CURE, M.D., for 40 years a practitioner at Martinsville, Ind., December 30.

Book Notices.

BACTERIOLOGY AND SURGICAL TECHNIQUE FOR NURSES. By Emily A. M. Stoney, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Illustrated. Cloth; pp. 190. Price, $1.25. Philadelphia and London: W. B. Saunders & Co. 1900.

The modern nurse is a product of modern medicine. She, or occasionally he, is a necessity of the conditions produced by the present methods of scientific and humane management of the sick and suffering. The modern nurse, if she be successful, must be an intelligent being, not an automaton or a machine to go mechanically through certain routine duties. She should not only know how, but also why, she does certain things, so that she can do them intelligently. This book is intended to teach the nurse the reason why, so that she may know how, to enter into the details of the scientific nursing of surgical cases. The first chapter on History of Bacteriology places before the reader in a simple manner an account of the growth of the science of bacteriology from its beginning. Following this are chapters on Bacteria as a Cause of Disease, in which the various bacteria of importance and their nature are considered; the Theory of Antitoxins; Antiseptics, Disinfectants and Deodorants, in which are described the various germicidal agents, their nature, uses, etc. In the second part are considered the care of the operating-room, sterilization, care of instruments, keeping of charts, anesthetics, surgical dressings, use of the thermocautery, manner of making saline infusions, etc., preparation and care of sutures, ligatures, drainage-tubes, etc., complications following operations, and their management. In fact, all that a surgical nurse, as such, ought to know is discussed in a sensible manner, the author keeping in mind the fact that she is writing for the nurse, not for the operating surgeon. The book is to be commended.

MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers Da Costa, M.D., Professor of Principles of Surgery and of Clinical Surgery, Jefferson Medical College. With 493 Illustrations. Third Edition, Revised and Enlarged. Cloth; pp. 1117. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1900.

In this edition Da Costa has brought his well-known work thoroughly up to date, making it, as its name indicates, a "modern" surgery. The general plan of former editions has been retained.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition. Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume I. Illustrated by Numerous Chromolithographs and 498 fine Half-Tone and Wood Engravings. Cloth. Pp. 799. Price, $7.00. New York: Wm. Wood & Co. 1900.

The "Reference Hand-Book of the Medical Sciences," one of the great encyclopedic works on medicine, is being revised, and the first volume of the new edition is before us. The first volume of the original work was issued in the fall of 1885, and the last in 1887, thirteen years ago. To bring out a revised edition of such a work is no small undertaking, but if it is to continue to fill the place it occupied, the re-writing of the book is necessary. The changes and the advancement of the last decade and a half have made the greater part of the work obsolete. Comparing the first volume of the new with the first volume of the old, one realizes that most of the matter has been re-written. While occasionally the same article is reproduced, this is exceptional, and not only is the new rewritten, but, as a rule, by a different author. The changes that have taken place in medicine in the short fifteen years

is graphically depicted when the two are compared. The article on "Antiseptics in Surgery"—contributed by Surgeon-General Sternberg—is entirely new. In the former edition this was illustrated with cuts showing the memorable spray which Lawson Tait ridiculed so much; another showed an operation with the operator and his assistants in ordinary street apparel, which certainly looks strange nowadays. Another noticeable difference is that the word "appendicitis" is not to be found in the old, but the subject in the new occupies thirteen columns. Autointoxication was not considered fifteen years ago, but now it takes up six full pages. The subject "bacteria" in the old was worthy of only a half column, in the new it claims no less than forty-four pages. This is, by the way, a most excellent monograph of itself, written by Arthur R. Guerard, and beautifully illustrated, showing the various pathogenic bacteria. This large amount of new matter has made it necessary to omit much that appeared in the first edition. But the articles for omission have been carefully selected so that little that is of importance has been expunged. The subject of balneo-therapeutics, which occupied eight pages in the former edition, is omitted entirely, which will be regretted by but few. The illustrations in the new show the advancement made in the illustrator's art. The paper and press-work are both of better quality. If the succeeding volumes take up as much proportionate space as this one, the complete work will be much larger than its predecessor. The new volume only gets as far as "bladder," while the former first volume reached the word "cataract."

ATLAS AND EPITOME OF GYNECOLOGY. By Dr. Oskar Schaeffer, Privat-Docent of Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the Second Revised and Enlarged German Edition. Edited by Richard C. Norris, A.M., M.D., Surgeon-in-charge, Preston Retreat, Philadelphia. With 207 Colored Illustrations on 90 Plates, and 62 Illustrations in the Text. Cloth; pp. 272. Price, $3.50. W. B. Saunders & Co. 1900.

This compact little work, which is very full of illustrations, is hardly in the usual form of an atlas, though fully deserving of that name. Its value to the medical student will be found, as the editor states, specially in the illustrations. The concise explanatory descriptions are, of course, a valuable feature, and the translation has been well done. The editor has also inserted here and there an editorial comment where it would seem necessary to harmonize and point out the difference between the author's teaching and the usual American practice. The work promises for itself a wide sale and to be of much value to the American student and practitioner.

HERNIA: Its Etiology, Symptoms and Treatment. By W. McAdam Eccles, M.S. (Lond.), F.R.C.S. (Eng.), Assistant Surgeon West London Hospital. Cloth. Pp. 231. Price, $2.50. New York: Wm. Wood & Co. 1900.

The aim of this book, as stated in the preface, is "to submit a short account of the origin, symptoms and treatment of a lesion which, by its very frequency, is of considerable importance and one that teems with practical suggestions." The subject is not exhaustively handled, and some of the rarer conditions, such as double sacs, hernia "par glissement;" femoral hernia external to the vessels, pectineal hernia, tuberculosis of the hernial sac, the very large herniæ, etc., are scarcely mentioned. The statement that a direct inguinal hernia is, strictly speaking, a hernia of the linea semilunaris at its lowest part finds no justification in anatomic facts, and it is very doubtful indeed if the conjoined tendon ever actually forms a covering to these herniæ as stated. The indications for the radical operation are too closely drawn. Owing to the very low mortality and the excellent results which follow the modern operation for hernia, it might be said that the presence of a hernia is sufficient indication for operation and that it is only necessary to point out the contraindications or reasons why an operation should not be performed. On account of the fact that late suppuration with extrusion of buried non-absorbable sutures so frequently occurs, the use of the buried silk sutures, as recommended by the author, will find few, if any, adherents on this side of the water.

The treatment of hernia by means of trusses is very well detailed and the illustrations in this connection are unusually good. Many valuable points on the selection and fitting of trusses will be found which show a large and practical experience in this line of work. The author's style is clear, brief and concise, and the volume neatly and well put up.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Lewis A. Stimson, B.A., M.D., LL.D. (Yalen), Professor of Surgery in Cornell University Medical College, New York. Third Edition, Revised and Enlarged. With 336 Illustrations and 32 Plates in Monotint. Cloth Pp. 842. Price, $5.00. New York and Philadelphia: Lea Bros. & Co. 1900.

Only a year has elapsed since the second edition of this book was reviewed in these columns. That a third edition should become necessary in the short space of one year is a recommendation of which few books can boast. Nor is this simply a re-issue. The work has been considerably enlarged by the addition of much new matter and many new plates. The experience of the author with fractures and dislocations has been unusually extensive and, while the work of others has been duly noted and recorded, his conclusions are nearly all based on the large amount of material which has been under his personal care. In considering the ambulatory treatment of fractures, the dangers, as well as the advantages, are clearly defined and the cases in which it is advisable to employ the method pointed out. The operative treatment of acute fractures, such as of the patella and olecranon, is conservatively and judiciously discussed, and advice given to the general practitioner as well as to the experienced hospital surgeon. The author still maintains, as in his former edition, that "thus far, in my experience, the X-rays have rarely given practically important information in fractures which could not have been obtained without their aid." He adds, however, "but there is reason to anticipate that with increasing knowledge and experience much good will yet come from their use." Notwithstanding this rather depreciative estimate of the value of the X-ray the work is extensively illustrated with excellent X-ray views of nearly all the principal fractures and dislocations. The work is a standard one and can be recommended to all who have to deal with these troublesome cases.

BALLINGER AND WIPPERN ON THE EYE, EAR, NOSE AND THROAT. A Pocket Text-Book of Diseases of the Eye, Ear, Nose and Throat, for Students and Practitioners. By William J. Ballinger, M.D., Assistant Professor of Otology, Rhinology and Laryngology in the College of Physicians and Surgeons, Chicago, etc., and A. G. Wippern, M.D., Professor of Ophthalmology and Otology in the Chicago Eye, Ear, Nose and Throat College. In one handsome 12mo. Pp. 525, with 150 engravings and 6 full-page plates. Cloth, $2.00. Philadelphia and New York: Lea Brothers & Co. 1900.

This compact little volume of related subjects will unquestionably be found useful by the student and the general practitioner. There are in it some magnificent plates descriptive of ocular anatomy. The physiologic tests used by aurists in locating deviations of hearing are dwelt upon at some length. The type and paper are excellent.

VENEREAL DISEASES: THEIR COMPLICATIONS AND SEQUELÆ. By Edward L. Keyes, A.M., M.D., Late Professor of Dermatology and Genito-Urinary Surgery in the Bellevue Hospital Medical College, and Charles H. Chetwood, M.D., Professor of Genito-Urinary Surgery in the New York Polyclinic College and Hospital. Illustrated by 8 Full-Page Plates in Black and Colors, and 107 Engravings. Cloth. Pp. 35[illegible]. Price, $2.75. New York: Wm. Wood & Co. 1900.

Although a former work of identical title by the senior author of this volume appeared some twenty years ago, this is in no sense a subsequent edition of the work. Dr. Keyes holds his old views, which have been largely accepted by the profession, as to the treatment of syphilis, and he makes no radical change in this presentation of his subject. As regards the teachings of urethral diseases, however, the older work has, he says, long ceased to be a safe guide, and here the work of the junior author is more to the front. The chapter on nervous syphilis has been contributed by Dr. Pearce Bailey, which is duly acknowledged by the authors. The illustrations are numerous, and the more recent views of the different subjects are, we believe, fairly and fully set forth. The compass

the work is sufficient to give a very fair idea of its subject, and while we make no special criticisms or commendations we would say that as a whole it is a very valuable treatise and addition to the literature.

FOOD AND THE PRINCIPLES OF DIETETICS. By Robert Hutchinson, M.D. Edin., M.R.C.P., Assistant Physician to the London Hospital. With Plates and Diagrams. Cloth. Pp. 548. Price, $5.00. New York: Wm. Wood & Co. 1901.

This volume contains a course of lectures to the students of the London Hospital, recast for publication with a considerable amount of additional matter. It is an excellent manual of dietetics in a form that ought to render it one of the most popular text-books on its subject in our language. Although it is written somewhat from the English rather than the American standpoint, this is not a defect, as the differences that would exist in a purely American work would be slight. The author acknowledges his indebtedness to the American school of investigators in this department, more especially to Prof. Atwater and his colleagues, who have done as much as other recent investigators in any part of the world to advance the science of dietetics. The style of the work is taking, and it is certainly easy reading, which is an advantage; we can safely say that the volume should be of value to the practitioner.

DISEASES OF THE GENITO-URINARY SYSTEM. A Thorough Treatise on Urinary and Sexual Surgery. By Eugene Fuller, M.D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School. Cloth. Pp. 774. Price, $5.00. New York: The MacMillan Co. 1900.

This is a treatise on the genito-urinary diseases, largely in their more practical surgical aspects. As they are usually considered surgical diseases this is probably the natural treatment of the subject. The volume covers its ground fairly well. While on some points there may be a difference of opinion as to special methods and ideas described or inculcated, as a whole it is one of the most valuable of the recent contributions to the literature on the subject.

A TEXT-BOOK OF HISTOLOGY, INCLUDING MICROSCOPIC TECHNIC. By A. A. Böhm, M.D., and M. von Davidoff, M.D., of the Anatomical Institute in Munich. Edited, with Extensive Additions to both Text and Illustrations, by G. Carl Huber, M.D., Junior Professor of Anatomy and Director of the Histologic Laboratory, University of Michigan. Authorized Translation from the Second Revised German Edition by Herbert H. Cushing, M.D., Demonstrator of Histology and Embryology, Jefferson Medical College, Philadelphia. With 351 Illustrations. Cloth. Pp. 501. Price $3.50. Philadelphia: W. B. Saunders & Co. 1900.

This important volume is one of the numerous additions to English medical literature by the translation of standard German and other foreign works. In this case it is the authorized translation from the second revised German edition edited by Prof. Huber, of the University of Michigan. The substance of the book is the special matter of the lectures and courses in histology given at the University of Munich, and is retained in its English form with certain minor changes and numerous additions by the editor. These are more particularly notable in the portion on the nervous system and the glands of internal secretion. Over 100 illustrations, most of which are from original drawings, have been added to this volume which were not contained in the German editions, making the work as it stands a decided improvement over the original. The translation appears to be admirably done, and the publisher's part is beyond criticism.

DISEASES OF THE NERVOUS SYSTEM. A Text-Book for Students and Practitioners of Medicine. By H. Oppenheim, M.D., Professor at the University of Berlin. Authorized Translation by Edward E. Mayer, A.M., M.D., Pittsburg, Pa. First American from the Second Revised and Enlarged German Edition. With 293 Illustrations. Cloth. Pp. 899. Price $5.00. Philadelphia and London: J. B. Lippincott Co. 1900.

Oppenheim's work has acquired a reputation as a text-book in Germany, and the present translation into English is a service to the American profession. As a text-book it is brief in its treatment of many subjects, but its arrangement and its subject-matter are such that it will undoubtedly take its place among other well-known and excellent treatises on nervous diseases that already exist in our language. We do not say that it has special advantages over all of these, but it certainly will be useful and valuable to the student and practitioner as giving the later German views on this important class of disorders.

TROPICAL DISEASES. A Manual of the Diseases of Warm Climates. By Patrick Manson, C.M.G., M.D., LL.D. (Aberd.), Lecturer on Tropical Diseases at St. George's Hospital, Charing Cross Hospital Medical Schools, Lecturer in the London School of Tropical Medicine, Medical Adviser to the Colonial Office, etc. With 114 Illustrations and 2 Colored Plates. Revised and Enlarged Edition. Cloth. Pp. 684. Price $3.50. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

This manual of diseases of warm climates is handy, compact and concise, and yet appears to contain everything essential for an efficient working knowledge of the diseases of our warmer regions. The chapters on malaria are clear and lucid, and moreover interesting from the fact that Manson first formulated the mosquito-malaria theory, subsequently apparently demonstrated by Ross and MacCallum. The author's scientific turn of mind is apparent in every chapter.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of Practice of Medicine and Clinical Medicine in the Medico-Chirurgical College, Philadelphia. Illustrated. Fourth Edition, Thoroughly Revised. Cloth. Pp. 1292. Price, $5.50 net. Philadelphia and London: W. B. Saunders & Co. 1900.

The fourth edition of this well-known text-book appears only a year later than the previous one, and shows how well it has taken with the medical profession and the student. The changes that have been made are particularly in the parts on diseases of the digestive system and on certain other disorders, together with more or less revision in the text of the remaining portions. As a whole, the present edition is much improved, and there is no question that it will continue to maintain the favor with which it has been heretofore received.

Miscellany.

Proposed Legislation Affecting Army Medical Corps.

The Committee on National Legislation has been in conference with the military committee of the senate and house of representatives considering the army efficiency bill, S. 4300, and has recommended a substitute for Medical Section 18, in the interest of the civilian physicians of the United States and of the surgeon-general. The committee on national legislation appeals to every member of the AMERICAN MEDICAL ASSOCIATION requesting him to write or telegraph at once to both chairmen, Senator Hawley and Representative Hull, or his individual senator and congressman, urging them to vote for and favor the passage of the substitute presented by the committee. The original bill is highly objectionable. The substitute proposed by the surgeon-general to Section 18 of the Bill, S. 4300, and approved by the Committee on National Legislation of the AMERICAN MEDICAL ASSOCIATION was printed in THE JOURNAL of December 29, p. 1684. We also direct attention to the letter from Dr. C. A. L. Reed in this issue. The substituted section is recommended for the following reasons: The number of medical officers proposed by S. 4300 is 8 colonels, 12 lieutenant-colonels, 60 majors, and 240 captains and lieutenants; a total of 320. This gives a proportion of officers in each grade of 1 colonel, 1½ lieutenant colonels, 7½ majors, 30 captains and lieutenants; a total of 40. The number proposed in the section hereto appended is 10 colonels, 20 lieutenant-colonels, 80 majors, 200 captains and lieutenants; a total of 310, the proportion of officers in each grade being 1 colonel, 2 lieutenant-colonels, 8 majors, 20 captains and lieutenants; a total of 31. The total number asked for, 310, is desired for the reason that it is the absolute minimum number required to properly care for an army of 58,000 men in time of peace. The number of officers in each grade is arrived at for three reasons: 1. That the number of officers in the higher grades is the minimum number required in these grades to properly administer the affairs of the Medical Department. 2. That the number of officers in each grade is within a fraction of the relative number in each grade in the Medical Department at the present time, the

present proportion being 1, 1 2/3, 8 1/3, and 20; the proposed proportion being 1, 2, 8 and 20. From this it will be seen that the proportionate rank in the number proposed in this section is within a fraction of the proportionate rank as it now exists in the Medical Department, and that, consequently, no injustice will be done the Medical Department by substituting the proposed numbers for those which now obtain. 3. The efficiency of the Medical Department depends upon the quality of the men who enter this department, and the quality of the men depends upon the inducements offered them to enter upon a life career in the military service. The efficiency of the Medical Department in the past has been maintained by the rank and pay secured by the grading of the officers, which now obtains, and this depends upon the relative number of officers in each grade. It has been shown that the relative number in each grade is practically similar in the proposed section to that which now obtains in the Medical Department. This proportion is much changed by S. 4300, for while the present proportion is 1, 1 2/3, 8 1/3, and 20, total 31, the proportion in S. 4300 is 1, 1½, 7½ and 30—a total of 40; while S. 4300 gives a slightly higher proportion in the higher grades it gives a much lower proportion in the lower grades, the difference in the lower grades being in proportion of 20 to 30, and if S. 4300 becomes a law the consequence will be that while officers in the upper grades will pass through these grades as rapidly as they did before, promotion for officers in the lower grades will be much slower. As at present constituted a majority in the Medical Department is reached after from 18 to 19 years' service, while if S. 4300 is adopted it will take over 25 years for an officer to reach the same grade. For this reason the adoption of S. 4300 could not but seriously impair the future efficiency of the corps, in that by materially reducing the emoluments, it would in the future offer too small an inducement to that class of professional men whose entry to the corps maintains its efficiency. It is believed that the adoption of the numbers in the section proposed will not only give the extreme minimum total number required for the Medical Department in time of peace, and the minimum number of officers of each grade necessary to perform the administrative work of the corps, but by giving practically the same proportion in each grade will enable the medical corps to maintain its present degree of efficiency, in that the same emoluments will be offered in the future as have been offered in the past. The continuance in service for a limited time of a certain number of volunteer surgeons is also recommended. This, for the reason that the exigencies of the service as they now exist in the Philippine Islands can not be met unless more medical officers are allowed than these give for the regular Medical Department. The exigencies of the service demand that these officers shall have the rank of major and colonel, as they have important and arduous duties to perform. Their period of service is limited, in that they are to be retained only so long as their services are necessary and in no case beyond two years after the passage of the act. The appointment of these officers serves a triple purpose in that it allows the retention in service of officers now holding important positions, allows a certain reward to those volunteer medical officers whose services have been of value in the past and gives them time and opportunity to prepare for the examination necessary for entry to the regular medical corps or to adjust their affairs prior to return to civil life. Another provision in the appended section follows the same lines. It provides that in emergency the President is authorized to appoint as many surgeons of volunteers with the rank of first lieutenant as may be necessary, subject to discharge whenever their services are no longer required. This proviso is important in that it allows the President to give an honorable title and position to contract surgeons of long service or special merit. This allows in large part the doing away with the contract surgeon system, using contract surgeons only for brief emergencies, and substituting for civilian quasi-officers a body of men who have the real military rank which is so necessary to a proper performance of the duties of a medical officer in the army. In no other staff corps or branch of the army are civilians employed to occupy the places and perform the duties properly belonging to commissioned officers, and medical men when occupying such positions in the army should have the rank to which their position entitles them and the efficient performance of their duties demands. The volunteer surgeons will act as "feeders" for the regular Medical Department in that their military training will stand them in good stead when they appear before an examining board should they desire to enter the regular medical corps; while, should they return to civil life, they will have the prestige of having been officers in the United States Army should they desire to do duty in the National Guard, or return to the service in time of war. Nor will the cost to the United States be thereby increased. A sufficient number of properly qualified surgeons can not be obtained unless commissions are offered, and every appointment of an inefficient surgeon is a source of expense to the government through the pension claims of his patients and their dependents. The proposed change will also result in large immediate economies to the government. A contract surgeon is not under military rules to the extent of a commissioned officer, and consequently he can and does leave the service before he has more than fairly learned his duties. This results in a constant change of personnel at a heavy direct cost for their pay and expenses while traveling, and also an indirect cost resulting from their military inexperience. The giving of commissions to these surgeons would not change their pay except that when serving in the United States it would be reduced about $300 a year. There would be no difference in the matter of pensions, as the contract surgeon now receives by law the same pension as if he held the commission herein proposed. For these reasons, namely, on the score of efficiency, economy, and justice to men occupying important positions in the medical department, these men should be given the rank and position of officers. The necessity for appointment of such officers whenever necessary is apparent. The officers of the regular Medical Department are only sufficient in number to care for an army of 58,000 men when on a peace footing. In consequence provision must be made to establish an elastic medical corps. This is effected by this proviso, in that in sudden emergency or while the army is above its minimum strength it makes provision for a suitable number of medical officers who are to be retained only for the time when their services are necessary. The substitution of the proposed section for Section 18 and its amendment as it now stands in S. 4300 is, therefore, strongly advocated in that it will give a proper and efficient Medical Department with a properly proportioned minimum number of medical officers for duty with an army of 58,000 men in time of peace and an elastic Medical Department by which emergencies may be met.

H. L. E. JOHNSON,
Chairman of Committee on National Legislation.

Koch's Report on Malaria.—Koch publishes in the *Deutsch. Med. Woch.* of December 6 and 13, a summary of the results accomplished by his malaria expedition. He reiterates that examination of the children is the best means to determine the presence and character of malarial infection in a place. In the peculiarly isolated aboriginal villages he visited in eastern Africa, he found it almost universal among the small children. A certain proportion succumb, but the remainder as they grow up seem to acquire a natural immunity by the fifth to tenth year and after that age develop into remarkably fine physique and health, even in the most intensely malarial localities. The children are never treated for malaria; quinin is never given them, and consequently the immunity attained can not be compared with other regions where the natural course of the disease and the process of immunization are interfered with by medicinal measures. He found among the islands of the Bismarck archipelago that some of the islands were entirely free from malaria while others had only one or all three forms. The immunity acquired in an island where only the quartan variety prevailed, for instance, did not protect against the tertian or tropical fever or vice versa. He is convinced that man and mosquitoes are the only hosts of the parasites, and that by curing the infected children and all, even the deceptive latent cases in adults, malaria can be exterminated. He recommended 1 gm. quinin in solution, taken on a nearly empty stomach in the morning, every tenth and also eleventh day. If fever still persists, the dose can be increased to 1.5 gm., reducing the interval to one and two days. He warns that quinin is not absorbed unless the gastric reaction is acid.

Technique of Transfusion of Blood.—Weintraud described his method of blood transfusion as an improvement over those generally in vogue. He applies a ligature to the arm tight enough to arrest the venous but not the arterial circulation. The pressure is sufficient to send the blood through a tube into the elbow vein of the patient. A second tube at right angles to the first brings salt solution to mix with the blood. The process is so simple that it can be repeated indefinitely. Experiments on animals and clinical experiences show that about 150 to 200 c.c. of blood is transfused in six to ten minutes by this technique.

Societies.

COMING MEETINGS.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

THE BROOKLYN (N. Y.) SOCIETY FOR NEUROLOGY held its annual meeting December 27. Dr. William H. Haynes was elected president and Dr. Bronislaw Onuf secretary.

THE MAINE STATE SANATORIUM ASSOCIATION was organized at Augusta, December 29, with Dr. John F. Hill, as president, and Dr. Albion G. Young, secretary, both of Augusta.

THE WARREN COUNTY (N. Y.) MEDICAL ASSOCIATION has been organized at Glens Falls, with Dr. Godfred R. Martine, president; Dr. David J. FitzGerald, vice-president, and Dr. Fred G. Fielding, secretary and treasurer.

THE ATLANTA (Ga.) SOCIETY OF MEDICINE held its annual meeting, December 20, and elected Dr. T. Virgil Hubbard, president; Dr. Bernard Wolff, vice-president; Dr. Claude A. Smith, secretary, and Dr. Emil Van Goidstnoven, treasurer.

THE MEMPHIS (Tenn.) MEDICAL SOCIETY met December 28 and elected Dr. Frank A. Jones president; Dr. Alfred Moore, vice-president; Dr. James L. Andrews, secretary, and Dr. Richmond McKinney, reporter.

THE GERMAN MEDICAL SOCIETY, Cleveland, O., held its second annual meeting December 20, and elected Dr. Caspar Schmitz, president; Dr. Isidor Belkowsky, vice-president; Dr. Max Kahn, secretary, and Dr. Leo Reich, corresponding secretary.

THE MINNESOTA ASSOCIATION OF MILITARY SURGEONS met for organization at St. Paul, December 29, adopted a constitution and by-laws, and elected Lt.-Col. Reynaldo J. Fitzgerald, Minneapolis, president; Major William Jacoby, Wells, vice-president, and Capt. Geo. M. Coon, secretary and treasurer.

THE CLINTON COUNTY (Pa.) MEDICAL SOCIETY, at its meeting, December 21, nominated Dr. John K. Gilmore, Westport, for president; Dr. Robert B. Watson, Lock Haven, for secretary; Dr. Luther M. Holloway, Salona, for treasurer, and also named its delegates to the State Medical Society and THE AMERICAN MEDICAL ASSOCIATION.

THE LOS ANGELES COUNTY (Cal.) MEDICAL ASSOCIATION, at its annual meeting held December 21, elected Dr. H. Bert Ellis, Los Angeles, president; Dr. George E. Abbott, Pasadena, vice-president; Dr. Charles G. Stivers, Los Angeles, secretary; Dr. Kate Wilde, Los Angeles, assistant secretary; and Dr. John C. Ferbert, Los Angeles, treasurer.

THE INDIANA ACADEMY OF SCIENCE held its sixteenth annual meeting at Indianapolis, in December. Dr. Robert Hessler, Logansport, read a paper in which he reviewed from the standpoint of the biologist questions connected with malarial fever. He then described the plasmodium malariæ, its life history and action on the human body.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA elected on January 2 the following officers: Dr. W. W. Keen, president; Dr. H. C. Wood, vice-president; Drs. W. F. Norris, R. A. Cleeman, A. V. Meigs and S. Weir Mitchell, censors; Dr. Thomas R. Neilson, secretary; Dr. R. H. Harte, treasurer; Drs. F. A. Taggart and E. J. Norris, councillors.

THE ERIE COUNTY MEDICAL ASSOCIATION held a meeting for organization December 20. This organization is in affiliation with the New York State Medical Association and THE AMERICAN MEDICAL ASSOCIATION. It will hold stated meetings four times a year. The following officers were elected: Dr. DeLancey Rochester, Buffalo, president; Dr. William H. Jackson, Springville, vice-president; Dr. Arthur G. Bennett, Buffalo, secretary, and Dr. Charles A. Wall, Buffalo, treasurer.

THE ST. LOUIS DISTRICT MEDICAL SOCIETY held a meeting at St. Louis, December 19 and 20. The report of the committee on legislation was read by Dr. Frank Tainter, Warrenton. A bill to regulate the practice of medicine in the state of Missouri, modeled after the New York state law, is ready and now being revised. It requires that all applicants for a license to practice medicine in Missouri pass an examination before the state board. No diploma will be recognized in lieu of the state board examination. The following officers were chosen: Dr. Frank J. Tainter, Warrenton, president; Dr. A. H. Ohmann-Dumesnil, St. Louis, secretary, and Dr. J. P. Dunigan, Sullivan, treasurer.

THE AMERICAN SOCIETY OF NATURALISTS held its nineteenth annual session in the different buildings of the Johns Hopkins University and Hospital, on Dec. 27 and 28. A large number of representatives of universities, colleges, biological and marine laboratories, health departments, etc., were in attendance. Among matters of medical interest are the following: Dr. Norman Harris demonstrated a hitherto undescribed pathogenic anaerobic bacillus, found in the case of a man who died of abscess of the liver. Dr. Ross G. Harrison showed a tail which had been removed from a child by surgical operation; this tail contained muscular fibers and could be moved by the child at will. Dr. L. K Hirschberg spoke of the distribution of the bacillus aerogenes capsulatus found in the stomach of man and other animals. Dr. Simon Flexner described his researches on the bacillus of dysentery. Dr. W. H. Park, of New York, spoke of the duration of typhoid bacilli in ice and showed that these organisms could live for two or three months in ice without losing their virulence. Drs. G. W. Fitz and F. W. Hutchings showed that the seasons have great influence on the weight and growth of children. There was a discussion regarding the establishment and publication of an American bacteriological journal, but no decision reached. Drs. G. A. Fried and W. J. Gies attempted to prove that the muscles of man and many animals contain mucin. Dr. E. C. Spitzka, of New York, read a paper on his studies of the brains of the two Drs. Sequin—father and son—both eminent neurologists and psychologists, and contrasted their anatomy. It was the first time the brains of such near relatives had been thus subjected to minute study and comparison, and the results were exceedingly interesting, particularly the selection of the opposite hemisphere in the son for traits inherited from the father. A discussion was held before a general meeting of all the societies on "The Attitude of the State Toward Scientific Investigation." Prof. W. T. Sedgwick was elected president of the American Society of Naturalists.

Western Surgical and Gynecological Society.

Tenth Annual Meeting, Minneapolis, Dec. 27 and 28, 1900.

President Dr. O. Beverly Campbell, St. Joseph, Mo., in the chair.

A brief address of welcome, on behalf of the local medical profession, was delivered by Dr. James E. Moore, which was responded to by Dr. A. C. Bernays, of St. Louis, Mo.

INSANITY IN WOMEN ASSOCIATED WITH PELVIC DISEASE.

DR. W. O. HENRY, Omaha, Neb., after briefly reviewing the current literature, stated that he believed a large majority of all insane women have some pelvic disturbance as an important, if not a chief, causative factor. He urged the bringing before the profession the testimony of all who had been giving this subject special study, so that the real truth might be arrived at. He reviewed briefly 16 cases from his own experience, of which 10 were cured mentally and physically; 3 were improved; 2 were no better, and 1 died. He held that these all might have been saved by earlier and more radical local measures. He drew the following deductions:

1. Many cases operated on, but not cured, have failed of relief, either because attention to the local disease was not given early enough, or was not sufficiently radical.

2. Every insane woman should be given the benefit of a thorough and painstaking pelvic examination, and all pelvic disturbances quickly cured as an essential element in permanent restoration of the mind.

3. In some cases, where lacerations have been repaired and endometritis cured, there still remains enough reflex trouble from the uterus and ovaries, not perceptible until their removal, to continue the mental disturbance and demand their entire removal.

4. The general practitioner, as well as the laity, should be more fully alive to the connection between pelvic and mental diseases in women.

5. Many cases of insanity in women would be wholly prevented if the pelvic lesions were easily repaired.

6. It is the duty of the profession, and especially of the general practitioner, into whose hands these cases first come, to urge on women the importance of keeping their procreative organs in absolute health, and of having all injuries repaired early, and diseases cured at once.

DR. C. H. MAYO, Rochester, Minn., followed with a paper entitled "Hypospadias," which will appear in THE JOURNAL.

THE CHOICE OF OPERATIONS FOR STONE IN THE BLADDER.

DR. BYRON B. DAVIS, Omaha, said the best operation for stone in the bladder is one which the most nearly answers the following conditions: 1, has the lowest operative mortality; 2, is followed by the smallest percentage of recurrence, and 3, most nearly restores the urinary apparatus to a normal condition. The operation of lithotrity has a small mortality, chiefly because it is only used in the comparatively simple and uncomplicated cases. In the hands of lithotritists the serious cases are treated by one of the cutting operations, and of course their results show a large mortality. It is also shown that men who practice consistently the suprapubic method in all cases as they present themselves, have a mortality which bears comparison with the results of the most skilled lithoritists, The number of recurrences, when the cutting operations are practiced, followed by drainage, are few. Quoting from men with large experience, it is shown that after lithotrity, recurrences are very frequent, one in seven cases or oftener. In giving a reason for these numerous recurrences, the author finds that after lithotrity the conditions which lead to the formation of stone in the first place, are not removed by the operation of lithotrity. The condition most frequent is stagnation combined with the presence of micro-organisms. Furthermore, it is asserted that no man can be sure he has emptied the bladder of all fragments and particles of sand, and these, if left behind, will serve as nuclei for fresh stones. On the other hand, when drainage is used after a cutting operation, until all infection has passed away, one of the chief factors in the production of recurrence is eliminated. Through an incision, all fragments can be easily removed; if the prostate obstructs, it can be dealt with in such a manner as to insure complete emptying of the bladder in the future.

COCAINIZATION OF THE SPINAL CORD, ITS USE AND LIMITATION.

DR. JOHN B. MURPHY, Chicago, read a paper on this subject. Analgesia is produced from the effect of the cocain upon the sensory roots and ganglia within the spinal cord. The affinity of cocain for the sensory nerve tracts was noted in the first experiments with this method. The speaker has been able to collect from recent literature 592 cases. Of this number, there were 4 partial failures, and 25 complete failures. Of the 592 cases there was only one death, this being partially attributed to the use of the drug, and was reported as having occurred in the clinic of Tuffier. Of the 5 deaths said to have occurrred in Tuffier's clinic, the first four patients died from other causes.

The dosage ranges from 1/20 to 1/10 of a grain for children. Even the 1/20 of a grain has been used in a child two and a half years of age. In adults the dose ranges from 1/6 to 1/2 a grain. In his personal work the speaker has not used more than 15 minims of a 2 per cent. solution. Usually he uses 12, many times 11, and very frequently 10 minims for operations on the cervix, the vagina, hemorrhoids, and for operations on the foot 10 minims is sufficient of the solution to use.

POST-OPERATIVE FISTULA.

DR. J. R. HOLLOWBUSH, Rock Island, Ill., said that appendicular fistula may be external or internal; the material which escapes from the external type of fistula may be pus from an unhealed abscess cavity, or fecal matter from either the small or large intestine. The internal type of fistula is caused by the rupture of an abscess into one of the hollow viscera. The author reported cases of fistulæ following operations for appendicitis, biliary fistulæ, etc., and described a method of closing them.

CARCINOMA OF THE THYROID GLAND.

DR. A. E. HALSTEAD, Chicago, went exhaustively into the literature of the subject, saying that the study of primary carcinoma of the thyroid gland dated from a comparatively recent time. The results of operative treatment are not encouraging. Morris quotes Kuster concerning the outcome of 50 cases treated by complete or partial thyroidectomy. In 8, death followed within twenty-four hours after the operation; in 5, within a week; in 8, within two weeks. Four remained free from recurrence for six months. Only one was known to be well at the end of four years. In the cases not operated upon, death results in most instances within one and one half years, either from suffocation, hemorrhage, thrombosis, or cachexia. In the cases reported by Poumet, Oser and Lebers, death resulted from rupture of the carotid artery. In the case of Franque the immediate cause of death was thrombosis extending from the internal jugular to the heart.

PATHOLOGY OF FRACTURES.

DR. LEWIS SCHOOLER, Des Moines, Iowa, said that each case should be treated on its merits. The difference in the length and tension of muscles in the flexed and extended position of limbs is easily ascertained, and may be studied by any one. The difficulty with text-books and with legal requirements is a too strict adherence to former customs. These, in the eyes of the law, and of many surgeons, are wisely and firmly established. Experience, however, shows their difficulties and their inability to meet the requirements in many cases. Even physiological causes may intervene and cause delayed union, as in the case of pregnancy, etc.

TREATMENT OF FRACTURES OF THE NECK OF THE FEMUR.

DR. JOHN P. LORD, Omaha, is of opinion that no one method of treating these fractures can be adhered to, because various indications must be met. All are agreed in regard to the maintenance of efficient extension. It should be the aim of surgeons to reduce the deformity and to apply a dressing which will retain the fragments in constant apposition. The only exception to this dictum should be in those cases where extreme age or enfeeblement enforces relaxation of this vigilance. The writer will resort to Ollier's apparatus, or a modified Phelps' fixation appliance, as is done in orthopedic practice, when the next case presents its need, which will enable the attendants to place the patient in the upright position daily, or, as desired. Absolute fixation does not require so long a period of confinement as in the days of sandbags, with extension of equally uncertain efficiency.

OBSERVATIONS ON COMPOUND FRACTURES.

DR. D. S. FAIRCHILD, Clinton, Iowa, said these fractures come almost entirely under the head of emergency work and often occur under the most unfavorable circumstances. The prognosis of an open fracture depends on certain pathological conditions present, the chief of which is infection. The great majority of open fractures are made so by the traumatism which produces a solution in the continuity of the bone, or the fracture is made compound from within out by the sharp point of a fragment of bone when the opening may be very minute, or the fracture may be made an open one in a few days by the separation of a slough due to the devitalizing influence of an external contusion with consecutive pressure from within or from without, or both. Compound fractures caused by direct crushing violence are much more serious, in that the blood vessels and nerves are liable to be involved, and the soft parts in general more seriously damaged.

AMBULATORY TREATMENT OF FRACTURES.

DR. FREDERICK RUSTIN, Omaha, stated that in selected cases, confined principally to fractures of the fibula, Pott's fracture, fracture of the malleolus and tarsal bones, the ambulatory treatment is not only rational, but gives the patient the advantages claimed by this practice. Ambulatory treatment need not necessarily be immediate, but may be applied any time before the fragments are held in relatively firm position by the new growth which leads to the callus formation, so that a period of seven to fourteen days may elapse after the injury, and yet the ambulatory treatment may be applied. The advantages of the ambulatory treatment are: 1. The time which the patient saves, in some cases the period of incarceration being but a few days. 2. The swelling and edema are less, owing to muscular action, and there is less apt to be stiffness of the neighboring joints, less muscular atrophy, and union is apt to be hastened, owing to the fact that immobilization is not perfect, and irritation of the fragments stimulates a more hasty repair. The disadvantages are: the callus formation is much enlarged, owing to imperfect immobilization; embolic processes either of fat or blood are relatively encouraged; immobilization is insecure, owing to muscular action, and finally, non-union is not uncommon, particularly in people of advanced years.

The author does not advocate the ambulatory treatment in all fractures, but believes there are certain cases where it should be tried in justice to the patient.

TREATMENT OF FRACTURES OF THE SKULL.

DR. JAMES H. DUNN, Minneapolis, said the treatment of these fractures is essentially that of injuries to the cranial contents. Aside from the general management and care due to all serious head injuries, it consists of prevention of infection, the control of hemorrhage, removal of foreign bodies and displaced fragments, and the relief or prevention of irritating lesions of the cortex. The ends to be reached are generally understood, namely, to trephine in compound and depressed fractures, and to open the skull on the development of focal brain symptoms following suspected or recognized fracture, and under all circumstances to observe the utmost possible asepsis in the presence of an external wound or fissure of the base, and to avoid operative intervention in the absence of clear indications may be accepted as axiomatic. The X-ray is of no practical value except where metallic bodies were lodged within the skull.

DR. C. C. ALLISON, Omaha, read a paper in which he discussed "Hernia of the bladder."

DR. J. CLARENCE WEBSTER, Chicago, read a paper on "Three Interesting Cases of Cesarian Section."

A CONSIDERATION OF THE DIFFERENT OPERATIVE PROCEDURES IN THE TREATMENT OF RETRODISPLACEMENTS OF THE UTERUS.

DR. O. BEVERLY CAMPBELL, St. Joseph, Mo., delivered the "President's Address," selecting the above for his subject.

In selecting a successful method of treatment for retrodisplacements of the uterus, it is necessary to note in each individual case of presence or absence of pathology in the adnexa, as well as the mobility of the organ. Adhesions between the uterus and rectum in retrodisplacements are invariably the result of pelvic inflammation, which will have usually produced pathological changes in the adnexa. The author classified retrodisplacements of the uterus. Operative treatment should not be resorted to until after reasonable trial of simpler methods of treatment. After mentioning the various methods of shortening the round ligaments, Dr. Campbell described one which he had devised himself. An anterior colpotomy after Martin's method is performed and the fundus is delivered into the vagina. Each round ligament in its turn is drawn out of its peritoneal covering through an incision near its uterine attachment and held with forceps. An incision is made anteriorly through the peritoneal coat of the uterus equidistant from the cornua and at a level with the attachment of the round ligaments. A pair of Spencer Wells' forceps is now passed beneath the peritoneal coat of the uterus and made to emerge at the uterine attachment of the round ligament. The drawn-out round ligament is fastened in the grasp of the forceps thus introduced, and drawn beneath the peritoneal coat of the uterus. The opposite ligament is treated in the same way. Chromicized catgut sutures, three in number to each ligament, are passed deep into the muscular tissue of the uterus and made to include the ligament. The rents in the peritoneal covering of the ligaments and uterus are closed with fine catgut sutures. In completing the operation after his method of treating the round ligaments, no attachment is made of the peritoneum. The vaginal wound is closed with chromicized catgut sutures. Convalescence after anterior colpotomy is very rapid. The majority of his cases are allowed to sit up out of bed the twelfth day after operation, and given the freedom of the halls the fourteenth day. This is certainly not the case where ventrofixation or Alexander's operation has been performed. His operation is applicable to both the vaginal and suprapubic routes.

DR. F. GREGORY CONNELL, Chicago, described a "New Intestinal Suture, with all the Knots Inside." See THE JOURNAL XXXV, p. 1151.

TRAUMATIC INJURIES OF THE URETER.

DR. J. W. MACDONALD, Minneapolis, stated that ureteral injuries were divided into: 1, subparietal injuries, or those in which no open wound communicates with the injured ureter; 2, penetrating wounds, or those in which an open wound communicates with the injured ureter; 3, surgical wounds, accidentally or intentionally inflicted.

The most common causes of rupture of the ureter were pointed out; and the symptoms, diagnosis, prognosis, and treatment dwelt upon. Dr. Macdonald reported a case, and presented the patient; a girl aged 9 years, who was dragged by a heavily loaded sled. Examination revealed a painful bruise on the right side. No hemorrhage from any internal organ occurred at the time of injury or subsequently. Patient improved rapidly for four days and was discharged. She was operated on three months afterward. The tissues were found infiltrated to a considerable extent with pus, and exposure of the ureter was rendered difficult and in some places impossible by necrotic and cicatricial tissues. The ureter was healthy for about three inches by the kidney, but here sloughing had taken place, and for several inches it was lost in a mass of cicatricial tissue. After a most tedious search, in which the writer opened into and closed the peritoneum at three different places, he considered further dissection was useless and removed the kidney. The patient made an uninterrupted recovery, and is now in excellent health.

ETIOLOGY AND PATHOLOGY OF SURGICAL INFECTIONS OF THE KIDNEYS AND OF THE CYSTONEPHROSES.

DR. M. L. HARRIS, Chicago, considered the manner in which the microbes reached the kidneys; the concomitant conditions which favor the lodgement and development of microörganisms after they reach these organs, and the varieties of the microbe. He said there are four routes by which microbes may reach the kidneys, namely, through the blood-stream; along the urinary tract; through the lymphatics by contiguity, and directly from without by trauma. The pathologic changes, which vary according to the nature of the infecting microbe, were discussed, as well as the particular part of the kidney chiefly affected. Pyelitis, pyelonephritis, tuberculosis of the kidney, cystonephrosis, pyonephrosis, etc., were dwelt upon at considerable length.

DR. W. H. ALLPORT, Chicago, followed with remarks on the surgical infections and cystic enlargements of the kidney, their symptomatology and diagnosis.

TREATMENT OF SEPTIC INFECTIONS OF THE KIDNEYS AND CYSTONEPHROSES.

DR. L. L. MCARTHUR, Chicago, for convenience of consideration, subdivided the treatment into: 1, internal medication; 2, local applications (ureteral lavage and antiseptics); 3, surgical interference, either nephrostomy, or nephrectomy. Having determined the nature of the infection, by bacteriological examination, and the involvement of one or both kidneys, efforts should be made to remove the source of infection; to destroy or inhibit the organism in question, and to provide free exit to the products of infection. If the infection has been by extension from a corresponding cystitis, vigorous and systematic treatment of that must be at once instituted. The choice of medicaments is not of as much moment as the systematic carrying out of a rigid hygiene of the bladder. 1. If the urine be acid, especially so with the gonococcus and bacillus coli communis, to render the urine alkaline and ensure the elimination from the kidneys of much fluid. 2. Give some of the better antiseptics. Assist the kidneys by lightening their labors through good elimination from the bowels. As the bacillus coli communis is the most frequent cause of renal infection, it will be well to inhibit its multiplication in the intestinal antiseptics. 3. When, after a reasonable trial of these remedies, and the use of ureteral lavage *à la* Caspar, Albarran and Kelly, the case progresses unfavorably, as the majority perhaps will, there remains nephrostomy. Every renal operation which can be done without opening the peritoneal cavity is a safer operation, especially so with septic kidney; hence the selection of a retroperitoneal route.

DR. J. E. SUMMERS, JR., Omaha, narrated a case of adenoma of the tongue.

DR. ALEXANDER HUGH FERGUSON, Chicago, spoke of the various methods adopted by eminent surgeons for the excision of the superior maxilla, and then described a method which he had devised for removing the superior maxilla through the mouth.

OPERATIVE MANAGEMENT OF RETROPERITONEAL ABSCESS OF APPENDICULAR ORIGIN.

DR. GILBERT G. COTTAM, of Rock Rapids, Iowa, read a paper with this title in which he gave the following explanations of the occurrence of retroperitoneal abscess of appendicular origin: 1. Inflammatory attachment of the tip of the appendix to either fold of the mesocolon, followed by perforation into the post-colonic space. 2. Transmission of the infection from an acutely inflamed appendix, situated anteriorly, along the lymphatics of the appendix and cecum to the mesocolic glands. 3. Abnormalities of the peritoneal investment of the appendix. In about 75 per cent. of cases the meso-appendix is lacking, rendering the appendix an extraperitoneal organ, in contact with the peritoneum only on its anterior aspect. This type may be termed the retroperitoneal appendix and demonstrates its proximal relations to the postcolonic space. The various procedures available for reaching, evacuating and draining retroperitoneal abscesses were given. After treating all of these in detail and describing illustrative cases, the author concluded by advocating the posterior incision in all cases where a retroperitoneal abscess is suspected, or where there is doubt as to whether the abscess is in front of or behind the posterior parietal peritoneum, for the following reasons: It does not open the general peritoneum; it allows drainage by gravity; it disposes of the hernia problem, and if the abscess should prove to be anterior, the iliac incision can still be used and drainage instituted through both openings, the lumbar incision then corresponding to the counter-incision as now ordinarily used.

ANATOMICAL AND SURGICAL OBSERVATIONS ON APPENDICULAR ABSCESS.

DR. A. C. BERNAYS, St. Louis, said that the earliest operation of appendectomy in which he has found pus in the cavity of Douglas was done on the morning of the third day, about fifty hours after the attack, and the amount of pus was over a pint. The large majority of cases were operated between the eighth and fifteenth days, i. e., during the second week. He believes the most reliable sign of Douglas' abscess is the appearance of abdominal distension early in an attack of appendicitis. The drainage per rectum in men and per vaginam in women of typical Douglas' abscesses is an easy and successful treatment in uncomplicated cases. In cases in which Douglas' abscess is complicated by iliac, lumbar, or some other abscesses, or in which the Douglas abscess reaches so high, that it can be felt above Poupart's ligament, it has often been opened and drained from the anterior abdominal parietes.

DR. VAN BUREN KNOTT, Sioux City, Iowa, gave a further report of a case of cerebral cyst on which he had operated some three and a half years ago.

OPERATIVE MANAGEMENT OF HIP-JOINT DISEASES: A CRITIQUE.

DR. A. F. JONAS, Omaha, drew the following conclusions: 1. The aim of the surgeons should be radical in the removal of all affected structures and the preservation of all healthy bone. 2. To preserve the greatest amount of healthy bone and consequently to insure the best possible joint function, makes early incision imperative. 3. To insure the best possible function means not only the early evacuation of intra-articular tubercular products, and the removal of diseased structures, but implies a most thorough disinfection. 4. The most effective disinfection method known at the present time is pure carbolic acid and alcohol. 5. To insure the retention of the femoral extremity in the cotyloid cavity, which is necessary to insure good function, requires the greatest possible obliquity of the upper end of the bone. This can be done only by preserving as much of the neck as possible. Where a portion of the neck is destroyed or must be removed, a certain obliquity can be obtained by removal of the trochanter major. 6. To insure permanent usefulness of the hip-joint, long-continued mechanical correction by means of portable extension brace must be insisted upon. 7. Excision of femoral head, neck and trochanter must be avoided when possible.

SYMPOSIUM ON SURGICAL TUBERCULOSIS.

DR. J. CLARK STEWART, Minneapolis, discussed tuberculosis of the fascia: Dr. Rollin E. Cutts, Minneapolis, tuberculosis of tubes, ovaries and peritoneum, and Dr. Knute Hoegh, Minneapolis, tuberculosis of bones and joints.

TREATMENT OF TUBERCULOSIS OF BONES AND JOINTS.

DR. JAMES E. MOORE, Minneapolis, said the treatment of tuberculosis of bones and joints is almost inseparable because the disease usually begins in the epiphysis of long bones and the neighboring joint soon becomes affected. Tuberculosis of the shaft of long bones is so rare that some surgeons have never seen a case. When it does occur, the only treatment to be considered is the complete removal with hammer and chisel, and in the absence of a mixed infection allowing the wound to fill with blood-clots. Bone chips, iodoform, and boracic acid are not as good as the blood-clot. Orthopedists have arrived at great perfection in their methods and know just about what they can accomplish, but they are too well content with their methods and do not resort to operative measures soon enough. Their results are slow and unsatisfactory, but are better than the surgeon can offer at present.

Every case of joint tuberculosis is best treated for a short time by rest in bed, with extension by weight and pulley. An apparatus applied later should afford rest and protection to the joint, and should hold the limb in proper position, since a tubercular joint once cured in a faulty position can not be broken up safely. Plaster of Paris will yield better results in inexperienced hands than complicated braces. It should be applied just tight enough, not too heavy, and should extend far enough above and below the joint to prevent motion. When joints of the lower limbs are affected, crutches with a high shoe on the well foot should supplement the plaster bandage. The injection method of treatment is not recommended. When a joint is growing worse, in spite of good mechanical treatment, it should be operated on without delay. Pure carbolic acid and the actual cautery are recommended as valuable aids in operative cases. Whether the disease be primary or secondary, it can be cured by complete removal. The surgeon should be as careful to remove all diseased tissue as if he were operating upon malignant disease.

TOPICAL APPLICATIONS IN GYNECOLOGICAL PRACTICE; THEIR USE AND ABUSE.

DR. J. W. ANDREWS, Mankato, Minn., expressed himself as having very little confidence in the utility of pessaries, and in topical applications in gynecological practice. In a large majority of cases of retroversion or retroflexion of the uterus with tenderness in Douglas' pouch, he believes there is some disease of the ovaries and tubes on one or both sides, and this can only be cured by surgical measures. In concluding his paper he expressed the belief that there is no longer a legitimate field for the gynecologist. There is no reason why a good surgeon who can operate well on the abdominal organs should not operate equally well on the pelvic organs. There is no reason why the general practitioner can not treat catarrh of the cervix, when it exists, as well as he can a catarrh of the throat. He hoped that the routine topical applications in gynecological practice would be relegated to the mistakes of the nineteenth century.

A CALCAREOUS UTERINE FIBROMA.

DR. H. G. WETHERHILL, Denver, reported a fibroid tumor of the uterus, one nodule of which had undergone complete calcareous degeneration. The tumor was a true fibromyoma in all its parts, except this particular nodule, which was quite symmetrical, entirely interstitial, and so infiltrated with lime salts as to appear like a mass of uncalcined limestone, and so dense as to require the use of a bone saw for making a section. Its diameters were 4 and 3 inches. The clinical history of the patient was like that of others with fibroid tumor, except for a notable record as to cancer. Her father, mother, two maternal aunts and one paternal aunt had died of that disease. Patient recovered from the operation.

FIBROMYOMA OF THE URETHRA.

Dr. Wetherhill also reported an operation for the removal of a tumor of the urethra and anterior vaginal wall, the tumor being a myofibroma and having its origin in the muscular coats of the urethra and completely enveloping that canal. The

tumor was 3½ inches long by 2 inches wide, and was first noticed twenty years before removal. It was reducible, but was not retained within the vagina unless resort to packing was had. The specimen is interesting chiefly on account of its rarity, the only other myoma of the urethra found reported by the author being one quoted in Kelly's "Operative Gynecology." Examination of the tumor by a pathologist showed it to consist almost entirely of fibrous tissue, a few unstriped muscular fibers being scattered through the tumor.

The following officers were elected for the ensuing year: President, Dr. A. F. Jonas, Omaha; vice-presidents, Dr. A. W. Abbott, Minneapolis, and Dr. C. E. Ruth, Keokuk, Iowa; secretary-treasurer, Dr. George H. Simmons, Chicago; executive council, Drs. O. B. Campbell, St. Joseph, Mo.; H. C. Crowell, Kansas City, Mo.; John P. Lord, Omaha; James E. Moore, Minneapolis, and M. L. Harris, Chicago. Next place of meeting, Chicago. Chairman of committee of arrangements, Dr. John B. Murphy.

California Academy of Medicine.

Monthly Meeting, Nov. 27, 1900.

DR. W. W. MONTGOMERY in the chair.

LEPROSY.

DR. HOWARD MORROW exhibited a man aged 50, suffering from leprosy. He was born in Germany, but for the past fifteen years had lived in the Hawaiian Islands. He roomed with a male leper for one year in Honolulu. Six months ago he noticed a white area on the ulnar side of the wrist of the right hand, with slight traction of the little finger and shooting pains in it. Four months ago several brownish-red nodules developed on this whitened area, and others appeared in the skin on the back of the left hand, two on the forearm, one on the shoulder, two on the abdomen, and one on the right thigh. The nodules on the hand were confluent and anesthetic to pain, heat, and touch. Other nodules were seen, slightly indistinct. The case was of interest, because no bacilli had been demonstrated on sections taken from the nodule on the shoulder, also because there was no fever with the development of the nodules, and from the fact that no nodules had developed since the patient came to this country two months ago. Histological examination showed areas of plasma-cell infiltration in the corium, and a few larger cells, probably "lepra cells," but no bacilli could be found in them.

DR. D. W. MONTGOMERY said this case was particularly interesting on account of its resemblance to either leprosy or syphilis. When he first saw the case he had thought it was syphilis, but the anesthesia threw doubt on such a diagnosis. He found some places on the body where he had expected to find lepra bacilli, but they were not found. Dr. Morrow did find some bacilli which stained with methylene blue, were grouped, and resembled very much the lepra bacillus. These bacilli were very short. The fact of there being anesthetic areas over several of the infiltrations, and of his coming from a leprous country, and living with a leper, certainly pointed to a diagnosis of leprosy. He was put on syphilitic treatment simply because no lepra bacilli were found, and not because results were really expected from such treatment. There were some points also in the histology which pointed to leprosy and not to syphilis.

CARCINOMA OF STOMACH AND PYLORUS.

DR. T. W. HUNTINGTON exhibited a case with the following history. A man aged 65, native of Ireland, entered the City and County Hospital about Aug. 1, 1899. For the past year his health had gradually failed; he had suffered from pain in epigastrium, anorexia, occasional emesis, constipation, and gradual loss of weight. On entrance he was very weak, refused solid food, and would take only limited quantities of milk. He was pale, anemic and cachectic. Pressure below ensiform cartilage elicited pain. Examination of stomach contents showed absence of hydrochloric and excess of lactic acid. Stomach was greatly dilated. Diagnosis was carcinoma at or near pylorus. Operation took place Aug. 5, 1900. Median line incision was made below ensiform cartilage. Upon exposing pyloric end of stomach there was discovered an induration occupying the pylorus and extending along lesser curvature of stomach for four or five inches. The upper part of duodenum was thickened but not distinctly indurated; adjacent organs free from metastases. The upper portion of the duodenum, the pylorus and lower segment of stomach were removed. The stomach was closed by a double row of Lembert sutures, and the upper end of duodenum was attached to posterior wall of stomach by a Murphy button. The parietal wound, owing to exhausted condition of patient, was hastily closed by through-and-through silkworm-gut sutures. For five days the patient was fed per rectum. After that time food was given in small amount by the mouth. The patient made a fairly quick recovery, and the button was recovered on the thirteenth day. Prof. A. E. Taylor reported the specimen to be one of carcinoma of stomach and pylorus. There were evidences of malignancy at or near the upper margin of the stomach wall. After the first three weeks solid food was ingested and digested with comfort. He gained weight and strength slowly; was free from pain; appetite was good. On October 1, the supraclavicular glands were found to be enlarged and indurated. At the present time the glands above noted are apparent, but not so large as when first observed. There is a well-marked ventral hernia at site of incision. Patient's appetite remains good and digestion excellent. There is a suspicious feeling of resistance below ensiform cartilage, but no tenderness, and the inference is that if there be a recurrence of the growth in the stomach wall, it is remote from the anastomotic orifice, and non-obstructive. He is able to be about and seems to enjoy an altogether comfortable existence. The ventral hernia will be repaired in the near future and the case carefully watched with reference to final outcome.

DR. DUDLEY TAIT said there were several interesting features in Dr. Huntington's case. The extent of the involved area was remarkable. He had never seen a pyloric growth extending in the direction of the duodenum. In one specimen of pyloric cancer seen at the dead table, he noted an infiltration of the submucosa of the duodenum. The serous and mucous layers were apparently intact. The usual ocular inspection in an operation on such a case would have proved useless. In a growth like that described by Dr. Huntington, involving one-third of the duodenum the pylorus and a portion of the stomach, one would expect to find several glands, especially in the retropyloric region. All operations are useless unless these glands are completely removed. The supraclavicular glands found in carcinoma of the abdominal viscera are not always malignant. In two cases of cancer of the stomach, under observation at the French Hospital, Dr. Tait had removed a large gland from the neck, which proved to be tuberculous. In both of these cases all radical measures had been considered useless on account of the presence of the enlarged supraclavicular glands.

DR. HUNTINGTON said that he had been in doubt regarding the condition of the duodenum, and removed a portion of it because it looked suspicious. He was aware that it was not usually involved. The retropyloric glands seemed normal, though no doubt if he had gone up the lesser curvature to the cardiac orifice he would have found some enlarged. The patient improved wonderfully after the operation. He now ingests and digests food well, and gains in strength. While he thinks he did not remove enough of the stomach, the operation has certainly been justified by the comfort of the patient following it. Recurrence, if there had been any, had been through the glandular system.

MYXEDEMA.

DR. HERBERT C. MOFFITT reported three cases of myxedema in children, and exhibited two of the patients before the academy.

DR. T. W. HUNTINGTON said that some years ago he had removed an entire thyroid and the patient had developed myxedema within a year. He is a bookkeeper, holds a responsible position in Sacramento, and remains in very good condition, but has to resort to thyroid treatment for about a month at a time three or four times a year. He had not seen him now for several years, but understands he is living a useful life.

DR. WM. W. KERR, in discussing the treatment with the thyroid extract, said that the dosage necessarily varies and depends largely on what preparation is used. A patient he had was taking 15 grains a day of the preparation of a certain manufacturer. This patient went east and was referred to Starr, who put him on an English preparation, and he improved remarkably on 5 grains, first twice, and then once a day. Another patient takes 5 grains of this preparation once a week. He had consulted cattlemen for an explanation as to this difference in American and English preparations, and believed it is due to the fact that in this country the thyroid gland in the sheep atrophies after the first year. Regarding the duration of the treatment, if the gland has been removed, or there is deficient secretion, the patient will always have to use the extract.

Philadelphia County Medical Society.

Meeting Nov. 28, 1900.

Dr. George Erety Shoemaker, in the chair.

CUTANEOUS SYPHILIS.

DR. JAY F. SCHAMBERG reported a case of refractory cutaneous syphilis and exhibited the patient, a woman aged 39 years, who had, in 1892, been inoculated with syphilis, the disease having been contracted from her husband. Later a number of reddish and elevated rounded patches appeared on the arms and legs. A large reddish scar also existed in the palmar surface of the right hand, and painful paronychia was also present on one of the digits. The patient had gained in weight during the past year. One physician had given hypodermics of bichlorid together with mercurial inunctions. She had lately been taking iodids, but without much benefit.

DR. M. B. HARTZELL stated that in many of these cases he had seen good follow the administration of the potassium iodid in very large doses and he had in one instance given as much as half an ounce daily.

TREATMENT OF GONORRHEA.

DR. EDWARD MARTIN spoke on the treatment of gonorrhea. His remarks were confined to the line of treatment which he had found most efficacious during the past few years. The results had been compared with that obtained in the treatment of about 80 cases of the old plans of treatment. Of these 80 cases some had taken in the late stages of the disease, oil of cubebs, oil of sandalwood, and oleoresin copaiba. He had found that oil of cubebs was practically useless; salol, oil of sandalwood and copaiba did good. A combination of salol, oil of sandalwood and copaiba was best for internal use. Some patients had been for a time treated on the expectant plan, and the results had not been good. His present plan of treatment is as follows: When the case is first seen, if it be within the first few hours, or first twenty-four hours from the onset of the symptoms, the patient is to use an injection of a solution of protargol 6 grains to 3 ounces every two or three hours during the day. Before inserting the rubber nozzle in the meatus one or two drops of the solution should be dropped on the parts so as to wash away any debris or septic material. The rubber nozzle should then be inserted and the fluid injected and retained in the usual manner for about three minutes. On the following day the urethra should be irrigated with a solution of potassium permanganate 1 in 6000. The fluid should be placed in a fountain syringe and the parts irrigated daily by means of a short—about half an inch—blunt hard rubber nozzle made to fit the parts. About one and a half pints of the fluid should be used. After a few days the permanganate and protargol solutions might be increased in strength. Internally salol and lithium citrate might be given. Each night a prolonged hot bath should be given, since this tends to lessen the amount of congestion, and prevents priapism. He had frequently been able to cure patients of gonorrhea by this method within fifteen days. It should however be remembered that there are some cases refractory to every line of treatment. After six weeks a bougie or dilatable urethrotome might be used to determine the tender spots which might receive local treatment. He had lately almost discarded the use of the cystoscope in the treatment of gonorrhea.

DR. HELLER CHRISTIAN stated that the protargol solution was the best drug he had tried in the treatment of gonorrhea. He used a solution of protargol 10 grains to 4 ounces; and a solution of potassium permanganate ½ grain to 8 ounces. He believed the protargol solution should be retained as long as fifteen minutes, since it required this length of time to obtain the best local effect. About the second week the strength of the medicines should be doubled. About the fourth week copaiba and sandalwood oil should be given. He believed most failures had resulted from the fact that physicians had not determined whether the disease had been an anterior or posterior one. If posterior urethritis existed irrigation should be done every day. The diagnosis could be told by having the patient first urinate in one glass and the latter portion in another similar vessel. The part showing the mucus or sediment would give the clue. In chronic gonorrhea or when the prostate is involved, massage of this organ should be done through the rectum.

CYSTOSCOPY IN WOMEN.

DR. JOHN G. CLARK spoke on this subject and exhibited the instruments necessary. The speaker stated that when abroad he had observed that in many of the clinics the operators did not seem to be familiar with all the technique of carrying out cystoscopy as practiced by Howard Kelly. In one clinic a failure had resulted from the fact that the operator had placed the patient in the Sims position instead of the knee-chest posture. The latter position is always necessary, since the bladder is drawn forward, and is dilated more on account of the atmospheric pressure. In cystitis it should be remembered that the inflammation is not usually diffused over the entire organ. As a rule the part most affected is simply the vesical trigone. The diagnosis is best made by the Nitze instrument, and the treatment by the Kelly urethroscope of the later pattern, which gives a better view of the field.

DR. B. ALEXANDER RANDALL offered a resolution that it was the sense of the Society that the best interests demanded the payment by the Board of Education of a salary ($500) to each medical inspector (100) of the public schools. Carried unanimously.

New York Academy of Medicine.

Section on Obstetrics and Gynecology, Nov. 22, 1900.

ABDOMINAL VERSUS VAGINAL HYSTERECTOMY FOR CANCER OF THE UTERUS.

DR. WILLIAM R. PRYOR, in opening the discussion on this subject, said that a successful operation for cancer of the uterus must comprise the removal of the uterus, the adnexa, a considerable portion of the vagina, and certain glands. The most important of the latter, in this connection, were the obturator, though perhaps the most commonly overlooked. Other glands requiring attention were those at the bifurcation of the common iliac and those at the uterosacral folds. Vaginal hysterectomy was, of necessity, only an incomplete operation for uterine cancer, except in a few cases. Statistics from abroad, founded on 3155 vaginal operations, gave a mortality of 9 per cent.; his own collation of American statistics gave the mortality from the abdominal operation as 11.8 per cent. A fundamental principle in these cases should be, that in the removal all possibility of infecting the wound with either cancer cells or with the very septic contents of a cancerous uterus must be avoided. Another principle was that as little violence should be inflicted on the growth and the surrounding structures at the operation. While the vaginal operation was preferable as a purely palliative measure, he believed that the abdominal operation alone met the requirements for the radical operation.

DR. H. J. BOLDT said that, in the present state of our knowledge, he thought it was only exceptionally that abdominal hysterectomy should be done for uterine cancer. Vaginal hysterectomy allows of a smaller opening of the peritoneal cavity, takes less time to perform and is followed by a much more

rapid convalescence; moreover, there was no abdominal wound with its occasional bad consequences. The one advantage of the abdominal operation was the opportunity it afforded for extensive removal of infected glands, yet it was now generally conceded that the blood-vessels and glands were often not involved until late in the disease.

DR. J. E. JANVRIN stated that, looking back 18 years, he could point with pleasure to fully one-third of his operative cases of uterine cancer as having been permanently cured. Of course, it was only in very early cases that such results could be expected, yet he was in favor of operating in even advanced cases, as he was of the opinion that the patient was made more comfortable thereby.

DR. WILLIAM M. POLK said that while preferring the abdominal route he could only look on these cases with horror, as only one of his cases had survived without recurrence.

DR. W. GILL WYLIE said that in cases occurring in older women it was possible by an early and radical operation to effect many cures. It was most important that an interval of several weeks should not be allowed to elapse between the removal of a fragment of tissue for examination and the performance of the radical operation, should the diagnosis justify such a course.

DR. RAMSAY, of Yale, thought the surgeon should not adhere to one operation for all cases of uterine cancer. He preferred the suprapubic method for most cases, but was inclined to think that the operation of the future would be the combined method.

DR. A. PALMER DUDLEY heartily endorsed the view that the combined method was the best of all.

Therapeutics.

Exophthalmic Goiter.

M. A. Starr, in *Med. News*, advises rest, careful diet, mercury inunctions to the neck, especially the red iodid of mercury, tincture of iodin—minims five three times a day—and belladonna, are sometimes of use. The use of iron and arsenic as blood-builders are of use. Injections of iodin and other irritants are dangerous. Digitalis, strophanthus and counter-irritation are of little benefit, when there are pressure symptoms partial extirpation must be performed. He administers sodium glycerophosphate to counteract the poison in the blood:

R. Sodii glycerophosphati ..... ℥i 32

M. Ft. chartulæ No. xxxii. Sig. One powder after each meal in water.

This preparation is miscible in water and is of use in all cases where the system needs phosphorus. It can be given hypodermically.

Treatment of Compound Fractures.

Dr. S. Leigh, in the *Southern Medical Journal*, emphasizes the following important points in the treatment of compound fractures:

1. Free opening of the wound.
2. Removal of all useless torn tissues.
3. Thorough disinfection.
4. Good coaptation of bones.
5. Loose closing of the wound.
6. Firm pressure dressing.
7. Constitutional treatment.

He places special stress on the constitutional treatment, so that the tissues, both soft and bony, will unite quickly and thoroughly—such as good food, plenty of pure water, mild cathartics, strong doses of strychnin and iron with cod-liver oil, iodids in appropriate cases, and lime in the form of syrup lactophosphate.

Chronic Bronchitis.

R.	Eucalyptol	℥i	4
	Tinct. opii camph.	℥iv	16
	Syr. tolutani	℥i	32
	Syr. simplicis, q. s. ad	℥iv	128

M. Sig. One teaspoonful every four hours.

Association of Trional and Paraldehyde.

According to the *Phila. Med Journal*, Rapiteau states that trional is freely soluble in paraldehyde and that the mixture is four or five times as active as trional alone when used as a hypnotic. He recommends, in *Thése de Paris*, the following formulæ:

R.	Trional	gr. xv	1
	Paraldehyde	gr. xxx	2
	Ol. amygdalæ dulcis	℥iv	16

M. Sig. At one dose.

AS AN ENEMA.

R.	Trional,		
	Paraldehyde, āā	℥ss	2
	Yolk of one egg,		
	Lactis	℥iv	128

M. Sig. Use in the form of an enema.

AS A SUPPOSITORY.

R.	Trional	gr. iii	2
	Paraldehyde	gr. viss	4
	Olei theobromatis	℥i	4

M. Sig. Use as a suppository.

For the Pains in Tabes Dorsalis.

R.	Phenacetini	gr. xx	1
	Caffeinæ citratæ	gr. x	66
	Salol	gr. x	66
	Acetanilidi	gr. xv	1
	Sodii bicarb	gr. x	66

M. Ft. capsulæ No. x. Sig. One capsule every three hours until the pain is relieved.

[Phenacetin and acetanilid act particularly upon the spinal cord and its sensory tracts, and consequently can take the place of the opium preparations a great many times in relieving patients subject to these attacks].

Ohlemann, in *Ocular Therapeutics*, gives the following formulæ for local applications when indicated in diseases of the eyelids, such as styes, etc.:

R.	Hydrarg. chloridi corros.	gr. 3/20	01
	Vaselini	℥i	32

M. fiat unguentum. Sig. As an ointment to the eyelids.

R.	Sulphuris sublim.	gr. xlv	3
	Ammon. chloridi	gr. xv	1
	Aquæ rosæ	℥iss	48
	Spts. camphoræ	℥iss	6

M. Sig. For local use on the lids.

R.	Hydrarg. oxidi flavi	gr. iss	1
	Lanolini	℥iss	48
	Glycerini, q. s.		

M. Ft. unguentum. Sig. As an ointment for the eye.

Treatment of Abortion.

H. B. Stehman, in *Medicine*, states the following principles in treatment of abortion and its complications:

1. The rendering of the vulva, vagina, and uterus aseptic and as far as possible maintaining them in that condition.

2. Arresting hemorrhage, either by the use of the tampon in the cervix or vagina, or by directly emptying the uterus.

3. In inevitable abortion, the ovum, or any part of the product of conception should be removed as early as possible.

4. That intelligent curettage is invariably indicated whenever a vestige of placental decidua remains or any suspicion of infection is evident and that a bacteriologic differentiation is necessary both from the standpoint of prognosis and treatment.

5. When circumscribed local infection is a complication, evacuate the pus as early as possible and by the shortest route.

Psoriasis.

Dublitz, in *Jour. de Med. de Paris*, recommends the following:

R.	Olei cadini—cade	℥ii	8
	Zinci oxidi	℥iii	12
	Vaselini	℥i	32

M. Sig. For local application.

Chronic Ulcers of the Leg.

In the *Trained Nurse*, L. B. Fisher outlines the method of dealing with chronic ulcers which had been developing for several years and have never entirely healed during the time.

1. Use aseptic methods, as for any wound.
2. Spray with hydrogen peroxid thoroughly.
3. Make the ulcers perfectly dry with absorbent cotton.
4. Dust with acetanilid, one part mixed with boracic acid four parts.
5. Use strips of dry antiseptic gauze, an inch wide and a yard long over each ulcer. Lay them on loosely so as to be effective absorbents.
6. Place antiseptic cotton on top of the gauze.
7. Bandage from toes to knee with firm cotton bandage.
8. Bandage with a starch bandage when the patient is inclined to meddle with the bandage.

When the ulcer is deep, cut a disc of pasteboard large enough to extend half an inch beyond the edge of the ulcer and cut a hole a little smaller than the ulcer in the center of the disc. Bandage this over the ulcer. This will aid granulations.

Powdered charcoal should be used on ulcers that are gangrenous before using the acetanilid mixture. The legs must be freed from dead cuticle by use of alcohol.

Palatable Expectorants for Children.

H. B. Sheffield states that creosote is of great value in protracted coughs, and prescribes it in the following manner:

℞ Creosoti—beechwood ..... gtt. viii-xvi | 5
Glycerini ..... ʒiv | 16
Vini xerici, q. s. ad ..... ʒii | 64

M. Sig. One teaspoonful as necessary.

He also enumerates other expectorants which are palatable, such as liq. ammonii anisat., syr. scillæ comp., vinum ipecacuanhæ, syrupus senegæ, tinct. cubebæ, mistura glycyrrhizæ comp.—Brown's mixture—syrupus pruni virginianæ, syrupus tolutani, syrupus altheæ; the last four are also excellent adjuvants.

Frostbite—Congelatio.

Allen Gihon, in the "Twentieth Century Practice of Medicine," states that the proper course of treatment is to endeavor to restore the circulation. If the part which is frozen is exposed to high temperature before the circulation is restored, its death will necessarily follow.

For the purpose of restoring the circulation ice, snow or iced water, which may be gradually raised in temperature, must be depended on. The patient should not be placed in a warm room or brought near a fire until the normal circulation is established; otherwise the inflammation may end in gangrene.

FOR LOCAL APPLICATION.

A local application, which seems to do most good is:

℞ Ichthyoli ..... ʒii | 8
Lanolini ..... ʒvi | 24

M. Sig. Local application as necessary.

Gihon states that this ointment almost immediately relieves the pain.

FOR RAW FROSTBITES.

When the parts become raw and exposed, the following has been found of service:

℞ Acetanilidi ..... gr. xlviii | 3 | 20
Lanolini, q. s. ad ..... ʒi | 32

M. Sig. Apply locally.

When ulceration occurs, his statistics show that the acetanilid ointment will best prevent suppuration and promote granulation and cicatrization. When sloughing occurs treat same as when due to other causes—by warm boric-acid dressings, hot fomentations.

FOR MILD FROSTBITES.

In the treatment of the milder forms of frostbite rub the part well with snow or ice-water and afterward apply iodin, of which the tincture or compound tincture is most frequently used:

℞ Argenti nitratis ..... gr. v | 33
Aquæ destil ..... ʒi | 32

M. Sig. Paint the affected part frequently with this solution and then wrap the part in raw cotton.

Solutions containing resorcin, tannic acid, carbolic acid and camphor have been used with benefit.

The following is recommended by Boeck:

℞ Ichthyoli |
Resorcin |
Acidi tannici, āā ..... ʒi | 4
Aquæ ..... ʒv | 20

M. Sig. Apply with a brush at night.

As a rule, iodin should be used only when the skin remains unbroken:

℞ Tinct. iodi ..... ʒss | 16

Sig. Apply with a brush once or twice daily; or:

℞ Ichthyoli ..... ʒiii | 12
Olei terebinthinæ ..... ʒi | 4
Adipis lanæ hydrosi, q. s. ad ..... ʒii | 64

M. Sig. Spread on a piece of sterilized gauze and apply when the skin remains unbroken.

Hydrous wool fat is a yellowish white unctuous mass, containing about 25 per cent. of water. It freely takes up water and aqueous solutions. It is emollient and serves well as a base for ointments.

SOZOIODOLE-POTASSIUM IN FROSTBITES.

Sozoiodole-potassium is deserving of its reputation in frostbites as in other skin troubles. It should be prescribed in the following form:

℞ Sozoiodole-potassii ..... ʒii | 8
Lanolini, q. s. ..... ʒi | 32

M. Ft. unguentum. Sig. For local application.

[Sozoiodole is a white, odorless, crystalline powder, containing:

Iodin ..... 52.8 per cent.
Phenol ..... 20 per cent.
Sulphur ..... 7 per cent.

and is usually prescribed in ointments of 10 to 25 per cent. strength.]

ULCERATED FROSTBITES.

Bulkley has used the following on frosted fingers and toes with ulceration with good results:

℞ Acidi carbol ..... gr. xx | 1 | 33
Vaselini ..... ʒi | 32

M. Sig. Apply locally.

The pain will quickly subside and rapid healing will follow. Lassar, in "Handbook of Local Therapy," gives the following:

℞ Acidi carbol ..... gr. xvss | 1
Unguenti plumbi |
Lanolini, āā ..... ʒv | 20
Ol. amygdalæ ..... ʒiiss | 10
Ol. lavendulæ ..... gtt. xx | 1 | 33

M. Sig. For local application.

THIOL.

Dillon, *Am. Jour. Med. Sci.*, states that thiol, which is practically an artificial ichthyol, differs from ichthyol in that it has no disagreeable odor. It is said to be of great benefit in treatment of frostbites when applied as follows:

℞ Thioli—liquidi |
Glycerini, āā ..... ʒi | 32

M. Sig. Apply locally on a piece of gauze.

[Thiol is a hydrocarbon obtained by the destructive distillation of peat. It can be prescribed either in the form of dusting powder or as a brownish liquid containing 25 per cent. of the dry residue. When prescribed dry as a dusting powder it can be mixed with starch.]

CHILBLAINS.

According to Hyde the treatment of chilblains should consist in stimulating applications which tend to restore the activity of the circulation. He advises tincture of iodin reduced one-half in strength, or one part of aqua ammonia and tincture of iodin reduced one-half; tincture of camphor; and ointments of iodin, boric acid, and tar. Camphorated soap liniments and lotions containing sodium bicarbonate are also recommended.

The severer forms of frostbite are treated by surgical measures suitable in cases of gangrene and suppuration of slough.

Fetid Bronchitis.

Progrès Medical recommends the following combination in fetid bronchitis:

R.	Plumbi acetatis Ferpin, āā .....gr. ii	12
	Pulv. opii et ipecacuanhæ .....gr. iss	09

M. Ft. pil. No. i. Sig. One such pill three or four times daily for children from 8 to 12 years of age.

Nerve Tonic.

Eucalyptol is also considered by T. Republica, in *Merck's Archives*, as a valuable nerve tonic, which in his hands has proved very reliable. In all neurasthenic conditions, especially those arising from mental overwork, he finds its action satisfactory, especially if it is combined with synergistic agents, such as strychnin and phosphorus. As the effects of the drug are produced slowly he recommends that the administration in these cases be continued for three months.

Treatment of Breasts.

Brodhead, in the *Post-Graduate*, recommends in the case of women who do not expect to nurse, from any cause, the use of a tight breast-binder. The nipples should be protected with gauze; cotton should be placed in the axillæ, around and between the breasts and the binder applied as tightly as it can be worn with comfort. If it becomes loosened it should be tightened; it should not be removed except for purposes of cleanliness, until breasts are soft and painless. It is best applied when the patient is in the horizontal position. In many cases the binder alone is sufficient to dry up the milk; in other cases it will be necessary to limit the amount of fluids taken. When the breasts become caked and tender it is a good plan to administer large doses of salts, the Rochelle being as pleasant and efficacious as any. —*Med. Standard.*

Antipyretic and Antineuralgic.

Eron, in *Gaz. des Hôp.*, states that citrophen is rapidly absorbed, and for this reason it is worthy of consideration. He states that when given hypodermically it can be detected in the urine in twenty minutes. Citrophen is a compound of citric acid and paraphenetidin. It is a white crystalline powder, acidulous taste, soluble in about forty parts of cold water, and can be administered in doses ranging from 8 to 15 grains—.5 to 1 gm. Homberger, Ehrendorffer and Freudenberg report good results.

Administration of Chloralamid.

Chloralamid is a hypnotic which ranks among the best in treatment of the insomnia of neurasthenia and mild forms of insanity. Dr. S. Clevenger, in *Medical News*, gives the following formula for its administration:

R.	Chloralamid .....ʒii	8	
	Spts. frumenti Syrupi idæi, āā.....ʒi	32	

M. Sig. One-half teaspoonful at a dose. Two or three times this sized dose can be given if necessary.

Lettow gives it as an enema as follows:

R.	Chloralamid .....gr. xlv	3	
	Acidi hydrochlorici .....m. ii		12
	Alcoholis .....m. xv.	1	
	Aquæ .....ʒiii	96	

M. Sig. To be given per rectum. *N. Y. Med. Jour.*

Removal of Ear-Wax.

Hardened wax in the external ear can often be removed readily by injections of warm water and soap, soda or ammonia. Many cases resist this, and require the softening effects of glycerin or sweet-oil for a day or two before syringing. Do not bother with these long processes, but use a half-strength solution of hydrogen dioxid in the ear for about five minutes. This will disintegrate the hardest plugs, and they can be removed with very little syringing. This process never causes irritation or inflammation. Do not use too much force with the syringe; wipe the ear perfectly dry with absorbent cotton and apply petrolatum; wear a small piece of cotton in the ear for a day or two after removal. —*Phila. Med. Jour.*

Medicolegal.

Jury Not Supposed to Know Value of Medical Services.—To leave to a jury to determine the value of the professional services of a physician as an element of damages in a personal injury case, the number of his calls and consultations at his office alone being put in evidence, the fourth appellate division of the Supreme Court of New York holds, in the case of Carter vs. the village of Nunda, is error. At the most, it holds, the recovery for medical attendance should, under such circumstances, be limited to nominal damages. There is, it says, no fixed and definite schedule of charges of which a jury may take judicial notice by which the value of professional services may be determined, and their value is not a matter of such common knowledge that jurors may be permitted to appraise the same unaided by other evidence, even though such evidence would be advisory, and not necessarily controlling upon their judgment.

Admissibility of Mortality Tables.—The Supreme Court of Michigan says, in the case of Sax vs. the Detroit, Grand Haven and Milwaukee Railway Company, that it has been held in some cases that mortality tables are not admissible in negligence cases in which the injury does not result in death or permanent disability. And it says that in Texas it is held that the disability must be not only permanent, but, total, to admit of such proof, it having been stated there that, when the disability is only partial, such evidence would tend to confuse the jury. But the Supreme Court of Michigan holds here that the tables of mortality are admissible wherever the expectancy of life comes in controversy, though they are not conclusive. For example, upon the theory that the plaintiff had contracted for employment for life, and that the defendant had wrongfully refused him further employment after the expiration of four months, the court says that the jury might take into consideration the probable period of his ability to perform services; and the probable duration of his life would, in such case, be an element in that problem. However, in this case there were other elements to be considered than the duration of his life. The contract was, in effect, merely a contract to employ him so long as his service should prove satisfactory. On that account, the mortality tables, the court holds, should have been excluded, even if he was wrongfully discharged for another reason than failure to give satisfaction. The discussion in this case the court makes do also for the case of Leach vs. the Detroit Electric Railway, where it holds, and refers to as being the doctrine of this—the Sax—case, that mortality tables are not admissible in a personal injury case where it is not shown that the injuries of a permanent character.

Mandamusing Board of Examiners.—Dean vs. Campbell and others was an action for mandamus that was brought to compel the board of pharmaceutical examiners of the twenty-sixth judicial district of the state of Texas to issue to the plaintiff a certificate to follow the business and occupation of a pharmacist. The district court sustained demurrers to the petition. But its judgment is reversed by the Court of Civil Appeals of Texas. The latter is of the opinion that if the averments of the petition were true, the plaintiff was entitled to the writ of mandamus. It says that the court is lacking in power to control the discretion of the board of examiners, but the averments of the petition in this case reached beyond the point of discretion. They were to the effect that the plaintiff passed the requisite examination according to the standard prescribed by the board, and that he was adjudged by the board as entitled to his certificate, but that the board wilfully and maliciously refused to issue it to him. If as a fact in his examination he stood the test required by the board, and it was the latter determined that he was entitled to his certificate, the issuance of the certificate, the court holds, then became a ministerial act, and the wilful failure and refusal to issue it would be a wrong perpetrated upon the plaintiff, for which his remedy would lie as prayed for. To this the court adds that it has examined the statutes and the decisions on the question of jurisdiction of the trial court in

actions of this character, and the conclusion reached is that, if the proper case is made by the petition, the district court has jurisdiction to issue its mandamus to require the board of examiners to perform a ministerial duty.

Medicine and Testamentary Capacity.—One of the alleged grounds upon which was based the contest of a will which the Supreme Court of Missouri, Division No. 1, was called to pass on in the case of Martin vs. Bowdern, was that the testator's mental condition had been weakened and changed by the medicines he had taken to alleviate his sufferings so that he was entirely incapacitated to make a will. He had been sick with consumption or some like affliction and had been confined to his bed from the 8th until the 23d of the month, when he died. On the evening of the 20th, he made his will. On the 8th, it appeared, he was given aromatic spirits of ammonia, to be taken in doses of 15 drops, in water, every hour, suppositories of quinin sulphate, to be used every four hours. On the 10th a prescription of carbonate of ammonia, syrup of ipecac, distilled water, and syrup of tolu was given him, to be taken in doses of a dessertspoonful every two hours. On the 14th, he was given a prescription of carbonate of creosote, spiritus frumenti, and syrup of tolu, to be taken in doses of a teaspoonful every three hours. These medicines were prescribed by his attending physician, and, prima facie, the court declares, must be held to be insufficient to impair his capacity to make a will. And as there was no testimony in the case controverting this prima facie showing, it must, therefore, it holds, be taken as conclusive that the medicines did not impair his mind. Great stress, the court adds, was laid upon the fact that the prescription of the 14th contained whisky—an ounce and a half—and that this was given to him in teaspoonful doses every three hours. But no evidence was adduced that even whisky administered in such doses at such intervals would impair, in six days, a man's mental capacity to make a will, and the court declines to so hold as a matter of law. Wherefore, the court holds that the testimony wholly failed to support this ground of contest.

Injury from Apprehension of Personal Injury.—The basis of the plaintiff's claim for damages in the case of Ward vs. the West Jersey and Seashore Railroad Company was that he was by a gatekeeper carelessly and improperly shut in on a railroad crossing while driving over same and thereby subjected to great danger of being run down and killed by an approaching train, and that by reason of the danger to which he was thus exposed, he was shocked, paralyzed, and otherwise injured. The railroad company demurred. This presented to the Supreme Court of New Jersey the question of whether, in an action for negligence, the mere apprehension of personal injuries, which are not in fact received, will support an action, when physical suffering follows as a consequence of the mental disturbance. Up to the present time, this question seems not to have been settled in New Jersey. Now, however, the Supreme Court thinks that a wise public policy requires it to hold such injuries to be nonactionable. It says that it seems to be universally conceded that mere fright from which no subsequent physical suffering results, affords no ground for action. Where personal injury as well as fright is produced by the wrongful act, the rule is also entirely settled that the jury is entitled, in fixing the damages, to consider the mental agitation as well as the physical injury. But in cases where physical injuries follow from fright, the decisions are not harmonious. Among the courts which hold that there can be no recovery for such injuries, those of Maine, Pennsylvania, New York and Massachusetts, as well as those of England, are mentioned as being prominent. The ground upon which the doctrine of nonliability rests, as stated in opinions rendered by them, is said to be that a person is responsible only for the natural and proximate results of his negligent act; that physical suffering is not the probable or natural consequence of fright, in the case of a person of ordinary physical and mental vigor; that, in the general conduct of business and the ordinary affairs of life, we are bound to anticipate and guard against the probable consequences to those who are liable to be affected thereby, but that in doing so we have a right to assume, in the absence of knowledge to the contrary, that such persons are of average strength, both of body and mind.

Examination by Unfriendly Doctor.—The Supreme Judicial Court of Massachusetts says that, in the personal injury case of Stack vs. the New York, New Haven and Hartford Railroad Company, where the defendant denied the injuries, it was permitted, two days before the trial, to send two doctors, who made a thorough examination of the plaintiff, in company with the doctors employed by him. Nevertheless, after he had closed his case, and after it had called its two doctors as witnesses, the defendant asked the trial judge to order the plaintiff to submit to an examination by another doctor named by it. The plaintiff objected on the ground that his relations with that doctor were unfriendly, but offered to allow an examination by any other physician whom the defendant might select. The defendant declined the offer, and thereupon the judge refused to make the order, ruling that he had not power or right to make it under the circumstances. Commenting on this, the supreme judicial court says that perhaps the words "under the circumstances" so far cut down the seemingly absolute denial of power in the first part of the ruling that it meant only to state emphatically the plain injustice and outrage which it would have been to make the order proposed. The judge probably was justified in assuming the truth of the plaintiff's statement that his relations with the doctor were hostile. He certainly was justified in assuming that the plaintiff had personal objections to him. When the plaintiff coupled with his objection an offer to accept any other doctor whom the defendant might choose to send, bearing in mind the large possibilities that were open by telegraph and rail, he had a plain right to have his personality respected to the small extent that he asked. So, if that was all that ruling meant, as it certainly was all that was needed to dispose of the matter, the court says that in its opinion it was right. Nor does it stop there. But it declares that if the ruling required the decision of a broader question, it agrees with the Supreme Court of the United States, the New York Court of Appeals, and some other able courts, that the power does not exist. The need of the power, it thinks may easily be exaggerated, because, if, contrary to usual experience, a plaintiff should dare to refuse a reasonable examination, it would be the subject of just comment to the jury. And, if the power should be deemed needful to a more perfect administration of justice, the remedy, the court suggests, should be furnished by the legislature. A statute empowering the court to order a view of any place in question, or of "any property, matter, or thing relating to the controversy between the parties," it holds, does not extend to the ordering of an interference with the person of a party by some one out of court, in order to enable him to qualify himself to be called as a witness by the opposing party if the latter sees fit. Moreover, the court says that it can not doubt that, as a matter of history, the power it was asked to assert was a kind rarely claimed or exercised by common-law courts. And, in conclusion, it puts decision, not upon the impolicy of admitting such a power, but on the ground that it would be too great a step of judicial legislation to be justified by the necessities of the case.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, Dec. 29, 1900.

1 *The Treatment of Tuberculosis in Sanatoria. P. H. Bryce.
2 *Hyperidrosis of the Axilla: Its Treatment with the Thermocautery. Louis Kolipinski.
3 *The Eustachian Bougie. Lorenzo B. Lockard.
4 *The Ear as a Factor in Causing Systemic Disturbance. James L. Minor.
5 *The Importance of Post-operative Treatment After Removing Spurs of the Nasal Septum. E. F. Snydacker.
6 *Observations on Nitrogenous Metabolism in a Case of Nephritis. Walter C. Klotz.

Medical Record (N. Y.), Dec. 29, 1900.

7 *Some Remarks on Medicine in 1800. George K. Welch.
8 A Case of Gonorrheal Endocarditis with Congenital Malformation of Mitral Valves. G. W. McCaskey.

9 *The Operative Treatment of Varicose Veins of the Lower Extremities. W. C. Borden.
10 *Two Unusual Cases of Aphasia with Special Reference to the So-called Naming Center. Graeme M. Hammond.

Medical News (N. Y.), Dec. 29, 1900.

11 *The Nitrite Treatment in Syphilis. William Browning.
12 *The Failure of the Consensus Judgment with Reference to Tuberculosis. Charles Denison.
13 *The Value of the Schumberg Method of Purification of Water for Military Purposes. John H. Huddleston.
14 *A Theory of the Physiology of Spinal Anesthesia. H. H. Stoner.

Boston Medical and Surgical Journal, Dec. 27, 1900.

15 Operative Treatment of Goiter. J. Collins Warren.
16 Statistics of Operative Treatment of Thyroid Tumors. Lincoln Davis.
17 *Neoplasms of the Thyroid Gland. Charles G. Cumston.
18 The Practical Use of Vital Statistics. Frederick L. Hoffman.
19 Two Cases of Perforating Duodenal Ulcer with Subphrenic Abscess. J. C. Pegram, Jr.

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20 Was Death Due to Chloroform? John Chadwick Oliver.
21 Case of Placenta Previa, with Shoulder Presentation. J. F. Irvine.
22 *Resinol Dermatitis. M. L. Heidingsfeld.

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23 Symptoms and Diagnosis of Gall-Stones. W. G. Moore.

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24 Report of a Case of Acute Yellow Atrophy of the Liver. G. C. Crandall.

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25 Hernia of the Bladder: With Report of Case. W. O. Roberts.
26 Treatment of Typhoid Fever. Harding K. Osburn.
27 Trephining for Head Injury. Thomas L. Butler.

Journal of Experimental Medicine (N. Y.), Dec. 15, 1900.

28 *A Comparative Study of the Biologic Characters and Pathogenesis of Bacillus X (Sternberg), Bacillus Icteroides (Sanarelli), and the Hog-Cholera Bacillus (Salmon and Smith). Walter Reed and James Carroll.
29 *Some Observations upon the Bacterial Self-Purification of Streams. Edwin O. Jordan.
30 On the Toxicity of Normal Urine. Melvin Dresback.

Bulletin of the American Academy of Medicine (Easton, Pa.), December, 1900.

31 Neglected Clinical Opportunities in American Medical Centers. S. A. Knopf.
32 Psychology an Essential Factor in Medical Education. William J. Herman.
33 A Few Notes Concerning the Relation of the Academic to the Medical Course. Howard F. Hansell.
34 Some Experiences of a Volunteer Surgeon in the Philippines. Harry P. Ritchie.
35 The Necessity of Expert Supervision of Medical Items Printed in the Daily Newspapers. Walter L. Pyle.
36 Physician vs. Medicine Proprietors and Medicine Patentees. A. Ravogli.
37 The Mission and Duties of the True Physician. C. F. Ulrich.
38 "Good Form" in Professional Cards. Charles McIntire.

International Medical Magazine (N. Y.), December, 1900.

39 *A Further Contribution Concerning the Efficiency of the Suprarenal Gland, Both Internally and Locally, with Reports of Cases. W. H. Bates.
40 *Paroxysmal Delirium: A Short Study in Autoinfection. W. C. Hollopeter.
41 Types of Cases Illustrating the Action of Heroin Hydrochlorid. S. L. Gifford.
42 *The Treatment of Superfluous Hair Growth. Jay F. Schamberg.
43 Indican and Ethereal Sulphates. A. Robin.

Post-Graduate (N. Y.), December, 1900.

44 Clinical Considerations upon Chancre and Cancer. Charles W. Allen.
45 The Etiology and Rational Treatment of Renal Diseases Commonly Classed as "Bright's Disease." William H. Porter.
46 The Electrostatic Treatment of Neurasthenia. William B. Snow.
47 Some Facts Regarding Anesthetics in General and Anesthesia by Intraspinal Cocainization in Particular. S. Ormond Goldan.

Occidental Medical Times (San Francisco), December, 1900.

48 A Sanatorium for Indigent Consumptives. L. Bazet.
49 *Oxycamphor—A New Camphor Preparation in the Treatment of Asthma. J. O. Hirschfelder.
50 Uremic Coma from Obstruction of One Ureter Due to a Floating Kidney—Nephrorrhaphy, Recovery. Emmett Rixford.
51 Bright's Disease and the Cardiac Hypertrophy of Chronic Parenchymatous Nephritis. J. J. Clarke.
52 Sarcoma of the Kidney in Children. Bertram Stone.

Medical Herald (St. Joseph, Mo.), December, 1900.

53 Puerperal Convalescence. A. D. Wilkinson.
54 X-Ray Diagnosis. A. C. Stokes.
55 The Treatment of Fever in Infants. H. M. McClanahan.
56 An Ascent of Old Baldy, or Mountain Climbing by a Tenderfoot. W. J. Bell.
57 The Significance of the Predisposition of Tuberculosis. John A. Hale.

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58 *The Dietetic Treatment of Diabetes. Victor C. Vaughan.
59 *Abdominal versus Vaginal Hysterectomy. Henry O. Walker.
60 Typhoid Fever. Collins H. Johnston.
61 Some Points in Practical Midwifery. Harrison D. Jelks.
62 Complications of Specific Urethritis. William A. Hackett.
63 The Anatomy of the Fifth Nerve and Its Relation to the Etiology and Treatment of Trifacial Neuralgia. (Continued.) Edward K. Bacon.
64 A Summary of the Year's Work in Obstetrics. Theodore R. McClure.

Cleveland Journal of Medicine, December, 1900.

65 *Recent Progress and Present Problems in Pediatrics. L. Emmett Holt.
66 Smallpox of the Present Epidemic. Martin Friedrich.

Kansas City Medical Record, December, 1900.

67 President's Address, Jackson County Medical Society. A. A. Freyman.
68 Chronic Intestinal Obstruction: Report of Case. George M. Gray.
69 Aphasia. H. O. Hanawalt.
70 Something About Gangrene and Mortification, Traumatic and Pathologic, of the Extremities. Thomas H. Manley.

Journal of Cutaneous and Genito-Urinary Disases (N. Y.), December, 1900.

71 *Antero-Posterior Subdivision of the Bladder: An Important Anomaly. Eugene Fuller.
72 Case of Brocq's Erythrodermie Pityriasique En Plaques Disseminées. James C. White.
73 Dermatitis Vesico-Bullosa et Gangrenosa Mutilans. Report of Two Cases Having a Hystero-Traumatic Origin. Grover W. Wende.
74 Opisthotonos Due to Dorsal Sclerema Neonatorum. William Browning.

Dominion Medical Monthly (Toronto), December, 1900.

75 Some Results of Correspondence with Medical Examiners. T. Millman.

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76 *Diffuse Punctate Condition of the Fundus. Edward A. Shumway.
77 An Improved Astigmometer. W. F. Southard.
78 The Relative Value of Instruments Used for Keratometry. A. D. McConachie.
79 The Optical Treatment of Conical Cornea. Swan M. Burnett.
80 *Estimation of the Amount of Injury to the Earning Capacity of the Individual from Partial or Complete Loss of Vision. Howard F. Hansell.
81 An Uncommon Disease of the Cornea. (Keratitis Epithelialis Hypertrophica.) Redmond W. Payne.

Canada Lancet (Toronto), December, 1900.

82 *The Unofficial Gynecologic Treatment of the Insane in British Columbia. Ernest Hall.
83 A Case of Jacksonian Epilepsy with Operation. Campbell Meyers.

University Medical Magazine (Philadelphia), December, 1900.

84 *Phototherapy in Cutaneous Medicine—An Account of a Visit to Professor Finsen's Light Institute at Copenhagen. Henry W. Stelwagon.
85 *Successful Removal of Cataracts in Insane Subjects, with Recovery of Mind Attending the Restoration of Sight. William C. Posey.
86 *Diet in Typhoid Fever. James Tyson.
87 Thirty-five Cases of Diphtheria in Private Practice Treated with Antitoxin. Richard A. Cleemann.
88 *The Various Rings in Heller's Nitric Acid Test for Albumin. M. H. Fussell.
89 Recent Advances in the Bacterial Treatment of Sewage. D. H. Bergey.
90 A Brief Report of a Series of Interesting Cases Recently Seen. (Shock, Internal Lesions, etc.) Alexander Marcy, Jr.

Iowa Medical Journal (Des Moines) December 15, 1900.

91 Subarachnoid Anesthesia. A. N. Cokenower.

St. Louis Courier of Medicine December, 1900.

92 *Spontaneous Dislocation of the Hip Occurring During Typhoid Fever. L. A. Weigel.

93 *Early Recognition of Uterine Cancer. H. S. Crossen.
94 A Case of Latent Puerperal Convulsions, Occurring Three Weeks after Delivery, and Presenting no Premonitory Symptoms of Uremic Poisoning. T. A. Martin.
95 An Interesting Case of Extrauterine Pregnancy. Roland Hill.
96 A Case of Pseudo or Myosclerotic Paralysis. T. A. Martin.
97 Pseudo-Diphtheria Apparently Due to Micrococcus Tetragenus. Joseph Grindon.
98 Report of a Case of Malignant Jaundice. Icterus Gravis or Acute Yellow Atrophy. T. A. Martin.
99 Pus Tubes: the Abdominal Route for Their Removal, and Vaginal Route for Drainage. G. Wiley Broome.

New Yorker Medicinische Monatschrift, November, 1900.

100 Ueber angeborene Hornhauttrübungen. A. Schapringer.
101 Beschreibung eines durch Laparotomie gewonnenen Uterus-Myoms, nebst Bemerkungen über das Verhaltniss der Blase zur Vorderflache von Beckengeschwülsten. J. Schmitt.

New Orleans Medical and Surgical Journal, November, 1900.

102 Medical Treatment in Diseases of the Kidney. L. G. LeBeuf.
103 *The Commoner Affections of the Hands and Feet, and Their Treatment. Isadore Dyer.
104 Unusual Behavior of Cornual Placental Implantation. J. G. Bouvier.
105 A Case of Rhinoplasty. G. H. Lee.
106 For Ingrown Toe-Nails. B. A. Colomb.

Medical Sentinel (Portland, Ore.), December, 1900.

107 Cremation. A. S. Bower.
108 *The Unofficial Gynecologic Treatment of the Insane in British Columbia. Ernest Hall.

Medical Summary (Philadelphia), December, 1900.

109 Tonsillitis. (To be continued.) A. Sandner.
110 Puerperal Septicemia. A. J. Mann.
111 Remarks on Gleet. Monroe Manges.
112 Preventing the Dispensary Abuse. C. Fletcher Souder.
113 Treatment of Tonsillitis. E. W. Ritter.
114 Varicocele. W. T. Parker.
115 Good Health. Geo. J. Monroe.
116 Sulphur Compounds in Chills. Benj. H. Brodnax.

Yale Medical Journal, (New Haven, Conn.), December, 1900.

117 Report on the Production of Anesthesia by Intraspinal Injection of Cocain. George R. Shepherd.
118 *The Etiology of Dissection and Operation Wounds. Leonard W. Bacon, Jr.

Medical Examiner and Practitioner (N. Y.), November, 1900.

119 The Timely Diagnosis of Surgical Tuberculosis. Daniel N. Eisendrath.
120 Appendicitis and Life Insurance. W. M. Harsha.
121 The Prognosis of Various Types of Albuminuria. Talbot Jones.

American Medical Compend (Toledo), December, 1900.

122 *Some Thoughts on the Alleged Deterioration of the Human Female as a Factor in Reproduction. Park L. Myers.
123 The Sexual Phases and Crises of Women. Byron Robinson.
124 The Value of Petroleum in Wasting Diseases. D. E. Bowman.

Medical Standard (Chicago), December, 1900.

125 Myelogenic and Lymphatic Leukemia. Arthur R. Edwards.
126 Acute Respiratory Diseases. W. F. Waugh.
127 Acquired and Inherited Syphilis. Wm. S. Gotthelf.
128 Pathology and Symptomatology of Typhoid Fever. J. T. Moore.
129 Inveterate Insomnia Physiologically Considered. Wm. D. H. Brown.
130 Intestinal Surgery in Middle Ages and Modern Times. Adolfo Luria.

Pacific Medical Journal (San Francisco), December, 1900.

131 The Relation Between the Anemia of Youths and Young Adults and Hyperchlorhydria. Alfred W. Perry.
132 The Subarachnoidean Injection of Cocain with Report of Cases. A. W. Morton.
133 Hysteria. Geo. Adam.

Hot Springs Medical Journal, December, 1900.

134 Some Observations upon the Ocular Symptoms in Locomotor Ataxia. Paul T. Vaughan.

AMERICAN.

1. **Sanatorium Treatment in Tuberculosis.**—The importance of early diagnosis of the disease is first mentioned by Bryce, who gives statistics showing the presence of sputum in the different stages of tuberculosis. In the sanatorium treatment two ideas are to be kept in view: the cure of the disease, and failing this, the prolongation of life, and he also divides sanatoria into the private, for well-to-do patients, and the municipal, for the poor. The points on which he specially dwells are discipline, the prohibition of discussion between patients of their cases; provision of mental employment of a suitable character; the taking of detailed family histories; the preliminary treatment of pyrexia; exercise; baths; diet, on which he remarks at some length, maintaining that the increased use of more palatable fats is advisable; the cautious use of alcohol, if at all, the use of proteids such as milk, meat, eggs, etc., up to their limit of assimilation, and massage to stimulate metabolism. Other points mentioned are the effects of reduced air-pressure, dress, symptomatic treatment, personal hygiene, and, of course, care of the sputum, etc. The most important part that the sanatoria will play in lessening the fatalities of tuberculosis is, he thinks, in their being educational centers from which persons will return to their homes and there preach the gospel of cleanliness.

2. **Axillary Hyperidrosis.**—This condition, which is sometimes obstinate and annoying, has been treated by Kolipinski by cauterization of the parts so as to limit secretion by destroying the excretory ducts. In producing these scar tissues he says a local or general anesthetic is unnecessary unless the patient is irrationally timid. The axillary base is washed and shaved. The thermocautery at a bright red heat is applied, with its flat side, from ten to twenty times to the space from which the sweat is seen to ooze, namely, the area covered by hair in the adult; the triangular groove below, when the arm is elevated, for about two inches; the posterior border of the armpit, especially at its middle, and the upper external border near the hairy center. One-half or more of the superfices is turned into burns of the second and third degrees. The cauterizing is done in a very few minutes. A dry bismuth or zinc-oxid dressing is applied, and the patient may resume his ordinary occupation in a few days.

3. **Eustachian Bougie.**—The utility of the eustachian bougie in special conditions is maintained by Lockard, and its dangers are, he thinks, very remote. Infection can be produced as easily as by catheterization. Attention to cleanliness is essential and wounding of the membrane can be avoided by due gentleness; emphysema is likely to be trifling and not important if it occurs. Perforation of the drum can occur only if great force has been used. The most serious objection is the possibility of increase in the trouble, but if, at the first sign of such an aggravation, the treatment is discontinued, no permanent harm can be done. He sums up his conclusions as follows: The bougie, except when used as an electrode, is applicable in two conditions only: stenosis and tinnitus. The therapeutic effects are uncertain; sometimes harmful, frequently beneficial. It effects its purpose in two ways; by pressure upon contracted tissue and by reflex influences upon the auditory center. It should be given a thorough trial in all cases that have resisted other procedures. Its use must be stopped upon the first sign of increase in the local trouble. If care is taken, the dangers said to attend its application will be accidents of the greatest rarity. It has a definite field in aural surgery.

4. **Systemic Disturbances of Ear Disease.**—Minor reports cases in which symptoms of meningitis, intestinal derangements, septic fever, and recurrent attacks of biliary fever were connected with aural disease and relieved by treatment of the latter. He calls attention particularly to the importance of this factor in some obscure general systemic symptoms which usually occur in cases where pus is retained in the middle-ear cavity.

5. **After-Treatment in the Removal of Septal Spurs.**—The importance of subsequent care after removal of septal projections is insisted on by Snydacker, who maintains that no one should attempt to remove a spur from the septum without explaining this necessity, and in cases where after-treatment can not be carried out the operation should not be performed.

6. **Nitrogenous Metabolism in Nephritis.**—Klotz here reports experiments on cases of nephritis to determine the effects of nitrogenous metabolism in such cases. The experiments were made in two periods of five days each, in which the results were rather inconclusive, as he admits. The loss of nitrogen was high in both, the figures for uric acid were well above the normal, and nitrogen and phosphorus showed nothing characteristic.

7. **Medicine in 1800.**—Welch reviews the condition in medicine in the beginning of the century showing the contrast with the present time. He notices particularly the death of Washington and the alleged recommendation by Dr. Dick, of tracheotomy, which was not adopted, and says that the almshouse patients of to-day have more rational treatment than the President of the United States had in 1800. He also reviews the *Medical Repository*, the medical journal of the country in 1800, and especially the paper on improvement and progress of medicine during the eighteenth century, which was contained in its fourth volume. In concluding his paper, he refers to A. R. Wallace's remark as to the progress of the nineteenth century as compared not with the preceding one but with all previous time, which is the only just comparison according to that authority. Wallace enumerates twenty-five discoveries of first rank in the nineteenth century against only fifteen previously in the world's history. Of these twenty-five, four at least were medical, and of the previous fifteen, only one—Harvey's circulation of the blood-can be included in this category.

9. **Varicose Veins.**—The subject of varicose veins, anatomy and histology of the saphenous veins, etiology of varix, which the author attributes to congenital weakness, sex and age, to exciting causes, such as organic disease of the heart, pressure, occupation, etc., the pathologic anatomy and the operative treatment are reviewed in succession by Borden. Arguing from the pathologic condition of varicose veins he advises complete excision in all cases where no contraindications are present, and following this multiple ligation, or excision combined with multiple ligation. In cases where these measures are contraindicated and the entire saphenous is dilated, he recommends the trial of the high ligation of Remi and Trendelenburg. Also arguing from the etiology, pathology, and proneness of varix to extend, he recommends early operation. There is too much tendency toward palliative treatment in this disease, under which it often extends until serious complications occur or serious operations are demanded. By early operation, while the area is small, a complete cure may be obtained, and we would then see fewer extreme cases in later life.

10. **Aphasia.**—Hammond reports two cases in which lesions in the superior and middle temporal convolutions were combined with word-blindness and inability to name objects to a certain extent. From these he concludes that the presence of word-blindness or word-deafness, whether alone or in combination, does not always imply that the lesion is to be found in the higher visual or higher auditory centers or in both, but that a lesion in any part of the speech area may so alter the mechanism of the associated speech centers that any or all the symptoms of sensory aphasia may be induced. The naming sense, he says, is yet to be found. At present it lies in the dreamlands of theory.

11. **Nitrite Treatment in Syphilis.**—Browning notices first the method by subcutaneous injection of nitrites for syphilis, and then refers to his own method based on the theory that vasodilation is required and the need of more permanent, though possibly slower action than is obtained by subcutaneous administration. He says that the nitrites are indicated in all syphilitic diseases of the arteries, as a rule in all specific affections attended by pain, in all syphilitic brain troubles, and especially in the later and hereditary forms of syphilitic disorder—cerebral, spinal, peripheral. This lumps clinical indications rather than differentiates them, but for present and practical purposes it may suffice. With these indications goes the mandate to immediately employ such other and more directly specific agents as the case demands. The title of this paper is intentionally made "Use in Syphilis," not for syphilis. It is understood that the glycerin and erythrol preparations are nitrates. But what is known physiologically as the nitrite action is developed and hence that term is used in this article. In administration he finds that the nitrites produce gastric disturbances which prevent their employment for a prolonged period and the desideratum at present is for more vasodilators at least as slow and prolonged in action as the erythrol salt and at the same time as free from gastric disorders as nitroglycerin. Administration by the mouth answered best. All these drugs are highly explosive if improperly managed, and this fact should be kept in mind when mixing, a practice not to be recommended when dealing with the nitrites. The sodium salt should be given in solution, while the sugar preparation is available in the tablet form.

12. **Tuberculosis.**—The motive of Denison's article is to point out the fallacies of the consensus of opinion of physicians as to the treatment of tuberculosis and the incorrectness of present tendencies toward home treatment. The climate treatment has its advantages, which can not well be supplied by a substitute. Another disadvantage of the consensus of opinion is the tendency to magnify the germ element and neglect the predisposing conditions. What we need is reform in the causes of human degeneration without which the germ can not act.

13. **Drinking Water.**—Huddleston reports experiments with the Schumburg method of purifying drinking water by bromin subsequently neutralized by ammonia, and finds that it is effective. He thinks that it is rapid, practicable and inexpensive, as a pound of bromin retails at from 65c to 75c, and as the amount contained in an orderly pouch, weighing only 4 pounds, can be used to purify the drinking water for a day for a regiment of 1200 men.

14. **Spinal Anesthesia.**—The theory of spinal anesthesia is first explained by Stoner, who accepts the non-continuity of the neurons and their mobility, and holds that the injection of cocain into the cerebrospinal fluid paralyzes the peripheral neuron by gaining access directly to the cell bodies. The motor neurons escape, not because their cells escape, but owing to the direction of the motor conduction and the relation of the end-plates to the muscle fibers. They can not retract their function through the muscle as can the peripheral sensory neuron, through its center organ; of course, the cortical neurons are not affected. This also, he thinks, explains the suppression of the reflexes.

17. **Thyroid Neoplasms.**—Cumston reports his experiments with thyroid neoplasms and their operative treatment, reporting briefly a number of cases. He thinks that enucleation is advisable only in those rare cases of congenital formation, and simple colloid foci, and in cases of recurrence after total extirpation of one lobe. In a large majority of cases, total extirpation is the better plan, its one drawback being the possibility of wounding the recurrent laryngeal nerve. This may occur, though apparently all precautions are taken against it. In his future operations he will follow Kocher's advice to leave a bit of thyroid tissue at this point in order to avoid the nerve. He mentions in conclusion Jaboulay's treatment of desiccation of goiter after exposing it to air through an incision, reports of which would lead him to try it in those cases where extirpation or enucleation is contraindicated.

22. **Resinol Dermatitis.**—Resinol is a proprietary or rather secret remedy used for all sorts of cutaneous diseases and extensively sold. Its effects, however, are sometimes unfortunate, as shown by Heidingsfeld's paper. He reports three cases of dermatitis traced by him to the use of this application and concludes that resinol "possesses dangerous antiseptic and anodyne properties which under favorable circumstances, be it a special idiosyncrasy of the patient or impaired vitality of the tissues, are capable of inducing severe dermatitis, if not actual necrosis of the cutis and obtunding the sensibilities to such a degree that a habit is formed so strong in nature as to cause its constant and exclusive use."

28. **Yellow-Fever Bacilli.**—Reed and Carroll report the investigations which they have been making for the past year or more in regard to the identity and character of the bacillus of Sternberg and the bacillus icteroides of Sanarelli. Their experiments and observations are given in detail and the conclusions at which they arrive are stated as follows: 1. Bacillus X (Sternberg) belongs to the colon group. 2. Bacillus icteroides (Sanarelli) is a member of the hog-cholera group. 3. The various channels of infection, the duration of the disease and the gross and microscopic lesions in mice, guinea-pigs and rabbits are the same for bacillus icteroides and the hog-cholera bacillus. 4. The clinical symptoms and the lesions observed

in dogs inoculated intravenously with bacillus icteroides, are reproduced in these animals by infection with the hog-cholera bacillus. 5. Bacillus icteroides, when fed to the domestic pig causes fatal infection, accompanied by diphtheritic, necrotic and ulcerative lesions in the digestive tract, such as are seen in hogs when infected with the hog-cholera bacillus. 6. This disease may be acquired by exposing swine in pens already infected with bacillus icteroides or by feeding them with viscera of infected pigs. 7. Guinea-pigs may be immunized with sterilized cultures of bacillus icteroides from a fatal dose of the hog-cholera bacillus and vice versa. 8. Rabbits may be rendered immune by gradually increasing doses of a living culture of bacillus icteroides of weak virulence from a fatal dose of a virulent culture of the hog-cholera bacillus. 9. The sera of animals immunized with bacillus icteroides and with the hog-cholera bacillus, respectively, show a marked reciprocal agglutinative reaction. The article is illustrated with photomicrographs and cuts showing the pathologic changes from injection of the bacillus icteroides, and in yellow fever. [See THE JOURNAL, XXXVI, p. 40]

29. **Bacterial Self-Purification of Streams.**—Jordan gives the results of a study of the chemical and bacterial conditions of the Illinois River and its tributaries, undertaken in behalf of the Sanitary District of Chicago. The results of samples taken under varying conditions at various points along the course of the Chicago Drainage Canal to the Desplaines and Illinois Rivers are also given with some observations made on some of the more important tributaries before their junction, and in the Mississippi River below the confluence with the Illinois. The tables show a very marked reduction of bacteria in specimens taken within comparatively short distances. For example in the flow of twenty-four miles between Morris and Ottawa, the river freed itself from a great mass of sewage bacteria with which it was originally laden and at Ottawa this was not greatly in excess of that found in the flow of tributary streams. The character of the Illinois river is such that mechanical agitation and aeration of the water could play but a small part in causing this effect and dilution apparently was unappreciable in this way. Nothing very definite, he thinks, can be stated as regards the action of sunlight, and such evidence as he has gathered does not warrant attaching any great importance to this factor. The influence of the plankton, or the marine life of the surface of the stream, is also still questionable, perhaps more so than that of sunlight, and reasons for this are given. In fact there was a conspicuous lack of abundant plankton life in the stretch of river between Morris and Ottawa where such notable purification occurred. More importance is attached to sedimentation, the conditions for which were nearly ideal, the fall of the river in its lower 225 miles being only 30 feet and the sedimentation still further accentuated by the presence of several dams. This settling out of suspended matter and the entanglement of bacteria in the same must have been an important agency in the reduction of the latter. Jordan remarks also that all the instances recorded in the literature where marked bacterial purification have been observed are precisely those where the conditions for sedimentation have been most favorable. The limitation of food-supply for bacterial life, however, is an element which he thinks has received insufficient consideration in the past, and in this he thinks is the most reason for the bacterial self-purification of streams. The excessive removal of bacterial food from the water probably is due largely to the bacteria themselves, and they explain this fact. There is no accumulation of foul mud in the bottom of the river, notwithstanding the fact that sewage has been poured into it for 35 years. The solid matter, therefore, is destroyed either in suspension or after sedimentation. The river as a whole can be considered a great septic tank for bacterial purification. [See editorial pages.]

39. **Suprarenal Gland.**—According to Bates the extract of the suprarenal gland is the best hemostatic known, and while powerful is not objectionable in any way. It is the most powerful known astringent; the only one which can be instilled in all diseases of the eye without injury. It is the most valuable remedy for ear inflammation and improves the hearing when applied to the Eustachian tubes after other treatment has failed. For the nose and throat there is hardly any substance that we are acquainted with which has so many beneficial, and so few deleterious effects. Its use in hay-faver, œdema, Graves' disease, edema of the glottis, acute and chronic bronchitis, asthma, pulmonary congestion and edema, hemoptysis, etc., are mentioned at length and he claims that it is the most powerful known heart stimulant. In three minutes after 5 grains of the dried gland have been swallowed, the weak pulse of organic heart disease becomes stronger and the high-tension pulse of the laboring heart becomes regular. The normal heart is not embarrassed by an ounce of the powder. He says in conclusion: "Let me repeat that the suprarenal extract is the most powerful astringent, hemostatic and heart stimulant known. The field of its usefulness is rapidly widening. It is a safe remedy, and the reason why no bad effects have followed its administration is because we are using as a drug one of the secretions of the body which is necessary to life.

40. **Paroxysmal Delirium.**—Under this head Hollopeter reports several cases of delirium apparently due to autointoxication from the intestinal tract in children, and offers the following as a brief summary of his views. 1. The fever incident to intestinal autointoxication has no classified train of symptoms, varying in intensity and regularity according to the nervous mechanism and heredity of the child. 2. The symptoms manifested by autointoxication affect the nervous system so variously, that it is a question whether a classification based on the localization of the seat of intestinal irritation can ever be brought about. 3. The symptoms manifested by intestinal ptomains express themselves in symptoms suggestive of typhoid fever, meningitis, and malarial fever, so frequently, that without differential diagnosis, many cases are thus treated.

42. **Depilation.**—The use of the electric current to remove superfluous or misplaced hairs is described by Schamberg, who makes one or two suggestions. He advises against the use of the steel needle, as reversal of current may produce a deposition causing a tattoo mark. He uses the iodo-platinum needle, as a reverse would not make any difference. He also considers that it is not advisable to attempt to remove a fine growth of dark hair from the upper lip of young brunettes, but instead to prescribe some bleaching agent such as hydrogen dioxid which causes the hair to lose its color and become less conspicuous. There is also some reason to believe that the continued use of this agent may ultimately weaken the hairy development.

49. **Oxycamphor.**—This preparation, which is oxidized camphor, in which one of the hydrogen atoms has been replaced by the hydroxyl molecule OH, was first prepared by Manasse, of Munich, who found that its physiologic action was quite different from pure camphor, as it was an excitant, did not alter the blood-pressure, but decidedly influenced the respiration. Hirschfelder found it beneficial in the treatment of asthma, though in some unsuitable cases it has failed to have the slightest effect in spite of vigorous dosage. In one case it seemed to bring on the attack. The preparation which is sent out by the manufacturer as oxyphor contains 50 per cent. of oxycamphor, and this may be given in doses from ½ to 2 drams. He has been in the habit of prescribing it dissolved in simple elixir in the strength of 1 to 7. He has reports from Dr. Graves that it has been decidedly beneficial in whooping cough of children in doses of 5 to 30 minims of oxyphor. He says, "To sum up our experience with the drug, it is safe to say that we have in it a valuable addition to our pharmacopeia, one that we can safely use to take the place of various narcotics in the treatment of different forms of dyspnea."

58. **Diabetes.**—According to Vaughan, diabetes mellitus is a name used to designate the fact that the body has lost more or less its function of normally metabolizing carbohydrates. According to this definition, diabetes and glycosuria are by no means synonymous. The capability of the individual for the utilization of carbohydrates is limited. A healthy working adult thrives best upon from 18 to 20 ounces of carbohydrates daily, while he may dispose of two to three times this amount, for a time at least. It is not probable that the healthy man

can take enough starch to cause sugar to appear in his urine, but with less complex carbohydrates, the facts are otherwise and a temporary glycosuria can be induced by an excess of sugar. This, however, does not occur very often. The tests for sugar are reviewed and the necessity of the greatest care in making these emphasized. The class of foods, proteids, fats and carbohydrates and the proportion of each required by a normal man are enumerated and Vaughan lays down the diet tables for a case of diabetes, which differ from those usually given in that they contain relatively more fat and less proteid. He thinks that proteid feeding is overdone in this disease and it frequently happens that the sugar decreases by cutting down the proteids. The diet is arranged for a regular progressive course of seven days, and when the fully non-carbohydrate bill of fare of the last day is reached it should be continued for at least five days, the urine being tested during the last two. If the sugar disappears under the non-carbohydrate diet the case belongs under the head of mild glycosuria, but if it persists, the severe form may be said to be present. If it is the former, we must determine to what extent the patient has lost the power of utilizing carbohydrates in his food and try the tables given in invalid order for five days and test the urine regularly until the sugar reappears. Having thus ascertained the amount of carbohydrates he can utilize, a steady diet is fixed. In those cases which continue to excrete sugar under non-carbohydrate diet, after the last days of the series, the dieting becomes a very serious matter and Vaughan thinks it best to insist that a non-carbohydrate diet should be followed one week out of every four. The short and frequent periods are more easily borne by the patient and are more beneficial to him. During the interval from 100 to 120 gm. of white bread or its equivalent should be allowed daily. These cases are incurable with present means, and the best we can do is to prolong life.

59.—See abstract in THE JOURNAL, XXXV, p. 1046.

65. **Problems in Pediatrics.**—In this address the subjects taken up by Holt are the present status of diphtheria antitoxin, in which he shows the advance and great success in the treatment since the introduction of this agent; next Koplik's sign in measles, which he finds to be characteristic of this disorder and valuable in diagnosis, though not sufficient to enable us to recognize the disease before the possibility of infection to others. Milk sterilization and infant feeding, with the milk-supply of various cities are also discussed at considerable length. He believes that we need to educate parents in the conditions that are essential to life and the normal development of their children and to reduce susceptibility by increasing resistance.

71. **Antero-Posterior Subdivision of the Bladder.**—Fuller reports a case of transverse division or contraction of the bladder anteriorly to the urethral openings, dividing it into two parts. Two cases were observed by him, in both of which uncomfortable symptoms of increasing difficulty of urination began in early life and finally ended in retention. In both cases, it is true, urethral stricture existed, the cause for it in the first case being obscure, and possibly due, as he says, to long-continued vesical tenesmus. In both instances, however, it appeared to be insufficient to account for the retention. The first case was relieved by cutting through the vesical portion of the lower margin of the aperture opening between the two chambers down to the vesical floor, the assistant holding his finger in the rectum and maintaining steady upward pressure under the partition, while a pair of heavy serrated scissors were introduced through a suprapubic opening, dividing the partition wall down to within a quarter of an inch of the assistant's finger. After dissecting apart the cut edges of the partition as much as possible with the finger introduced from above, a large peritoneal drainage-tube was inserted and maintained between the cut edges. Temporary suprapubic drainage was also established. The recovery was uneventful and cure complete.

76.—See abstract in THE JOURNAL, XXXIV, p. 688.

80. **Visual Defects as Effecting the Earning Capacity.**—The conclusions at which Hansell arrives from his discussion of the amount of injury to the earning capacity of the individual by visual defects are stated as follows: Blindness is that degree of loss of vision that incapacitates one from earning his living in any occupation requiring the use of the sense of sight, the degree varying according to the demands of the occupation. Vision of less than one-half diminishes the earning power and the less the vision the greater the loss of the earning power. Monocular blindness is not incompatible with full earning capacity. The loss of earning power owing to defective vision may be computed according to a simple system based upon the ratio of the loss of vision to the full earning capacity at any age and in most occupations.

82.—See also title 108.

84. **Phototherapy.**—Stelwagon describes his personal observations of Finsen's method of treatment. The results are good; of this, he says, there can be no question. There are some disadvantages in the treatment of cutaneous tuberculosis, which is the form of disease there treated, the chief one being the duration of the treatment and the cost of apparatus, expense of treatment and close attention required. The principal criticism, however, made by those who have visited the institute and studied the method is that, in the mild and moderate cases at least, as rapid results can be obtained by other plans which have long been in vogue and are less expensive. His experience in the treatment of lupus in Philadelphia justifies this criticism. He thinks, however, there may be a difference in the type of disease to some extent. American skins do not seem to be so easy a prey to tubercle infection and the disease is here milder and more amenable to treatment than most of the European cases seem to be. It is probable, moreover, that, with further improvements, the light treatment may be made simpler and less protracted and expensive.

85. **Cataract Operations and Insanity.**—Posey reports two cases in which removal of a cataract in chronic insanity produced a rapid and complete cure of the mental disease. In both cases there seemed to be, from the history, a direct relation between the mental disease and the visual failure, and this may account for the success.

86. **Diet in Typhoid.**—In the majority of typhoid cases milk is the safest and most satisfactory diet, and Tyson does not favor the use of the soft foods which have been advocated by certain authorities. He does not, of course, hold exclusive opinions on this subject. He admits that under certain conditions animal broths and albumin water, consisting of the white of an egg mixed with water, may be used as a substitute. The objection to animal broths that they are specially favorable culture-media is, he thinks, overestimated. If given fresh they should be sterilized by heat, and it is doubtful whether any food does not become a culture-medium in the stomach. In case of hemorrhage, an immediate reduction in the amount of food should be made. It is better for some time to give no food at all, though in an uncomplicated case he gives from 4 to 8 ounces of milk every two hours. In case of peritonitis the indication for the arrest of peristalsis exceeds all others and this can be secured in no better way than by total omission of the food. Where total cessation does not seem necessary, the quantity can be very much reduced—one-half ounce or one ounce every two hours until the danger is passed. In convalescence he lays down an arbitrary rule which he thinks is on the safe side, namely, adherence to liquid food until the temperature has been normal for a week. After that he allows soft boiled eggs, and in two or three days soft milk toast and other soft foods are added from time to time until a reasonable mixed diet is taken. Chicken is one of the foods last allowed.

88. **Heller's Albumin Test.**—Fussell describes the various rings observed in Heller's nitric-acid test for albumin and concludes his article as follows: It would seem after these observations and the demonstrations that in making Heller's test three rings are formed: 1. The color ring. This ring forms in practically all urines, whether there is albumin present or not. It is specially marked in concentrated urines rich in

coloring matter, and in the urine of patients taking iodid of potassium or salol, or indeed any of the coal-tar products. It is at the point of contact between the acid and urine. 2. The white zone of albumin which forms at the line of contact between the urine and the acid, but always above the dark, constant, color ring. This ring is of a densely opaque white, and I think this is especially the fact when there is but little coloring matter in the urine. If there is a small amount of albumin present, however, as in urine containing pus, the ring is less dense, but nevertheless in close contact with the layer of acid and immediately above the color ring. 3. The urate ring, which forms high above the albumin ring, if albumin is present. The color ring forms at the line of contact of the acid and urine, and the color usually disseminates into the acid below and sometimes into the white albumin ring above. It is always below the albumin ring. The white albumin ring also forms at the point of contact of the acid and the urine; it is wholly in the urine and always above the color ring, though later on it may be somewhat discolored by it. The urate ring, a white thin zone, quickly forms, is far above, sometimes one-quarter or one-half inch above, the albumin ring, and is easily dissipated by heat.

92. **Hip-Dislocation in Typhoid.**—Spontaneous dislocation of the hip in typhoid fever, though comparatively rare, has some literature and has been noticed at length by Keen in his "Surgical Complications and Sequels of Typhoid Fever." Weigel reports a case in a girl 8 years of age, which caused considerable difficulty in its treatment, and still remains dislocated. He thinks the recurrence of luxation can not be attributed entirely, if at all, to relaxation and distension of the tissues and lack of suction power of the joint. He is inclined to think rather that the gradual lengthening of the ligament and distension of the joint-capsule permitted the head of the femur to slip out of the acetabulum without producing a rupture of the structures, which were simply carried upward, and when the joint was restored, the capsular ligament became folded on itself and prevented a perfect replacement. He has had a partial improvement in the case reported, the limb is better and stronger and more useful in every way than if nothing had been done.

93. **Uterine Cancer.**—After remarks on the diagnosis of malignant uterine disease, Crossen gives the report of a number of questions which he submitted to Dr. Carl Fisch, the pathologist, and their answers. 1. As to whether a positive diagnosis of carcinoma or sarcoma can be made from uterine scrapings, which is answered in the affirmative, though difficulties may arise in malignant adenoma. 2. Can malarial disease be excluded by such examination? Also answered in the affirmative. 3. Does malignant disease from the body of the uterus always involve the endometrium in the early stage so that a diagnosis can be made of the scrapings before the tumor has passed beyond the reach of radical operation? The reply to this question was that unless there is a degeneration of the myometrium without involvement of the mucosa or settling of a metastasis from another tumor, and in cases of carcinomatous degeneration of fibromatous uterus, the scraping should reveal the condition. As regards the early diagnosis of these exceptional conditions, the examinations of scrapings would, of course, yield only negative results. 4. Do fibromata really undergo malignant degeneration, and if so, is it carcinomatous or sarcomatous, and at what age does it occur and how may we know of the occurrence of the change? The reply to this was that fibromyomata frequently undergo malignant degeneration, the result being nearly always sarcomatous, though myxomata and even chondromata forming metastases are often observed. These changes are most frequent at the menopause, though they may occur earlier, with great thickening and enlargement of the uterus in some cases and marked thinning and dilatation in others, sometimes with the formation of pyometra or concomitant signs. The early stages can not be reached by direct examination except where a tumor is removed for other reasons. This sarcomatous change may remain latent for a long time, to light up with great intensity after some injury.

103. **Hands and Feet Affections.**—A patient suffering from the commoner affections of the hands and feet is hardly likely to think of a medical practitioner as a resource for relief. The average layman, or laywoman, gets the idea that the physician's work does not go beyond a bad complexion and similar affections. Barbers, druggists and especially chiropodists and manicurists have become specialists in this line, to the damage of their clients, and in this article Dyer directs attention to what we call the commoner affections of the hands and feet, viz., corns, bunions, warts and diseases due to the sweat-glands. In the summer many people complain of the hands and feet perspiring, and this may often result in a chronic condition of hyperidrosis and is often complicated with a tendency to inflammation, causing much pain and possibly confining the patient to bed. The condition is apparently easy to treat. 1. Advise the use of white castile soap and restrict excessive drink. Give a small dose of strychnia internally for a long period, about six weeks. For the hands, the use of a 3 to 5 per cent. alcoholic solution of salicylic acid frequently during the day; for the feet, a like remedy in powdered form, viz., salicylic acid, ½ dram; tannin, 1 dram; powdered arrowroot and rice starch, of each half an ounce, dusted in the stockings every day. Where the feet are inflamed and not blistered, simple bathing for 20 to 30 minutes in hot water with 4 ounces of laundry starch to the gallon should be of service before the use of powder. In the more chronic condition lead water may be used on cloths applied at bedtime, and if the blisters suppurate, nothing relieves better than a 5 to 10 per cent. solution of ichthyol. The commoner conditions of the nails of the hands and feet are: ingrown nails, run-arounds, hangnails, horn-nail and felon. The hangnail often causes paronychia, and as often the felon. It should be held in place and collodion painted over it. When infection occurs, touch the spot with carbolic acid and mop afterward with alcohol, or touch it with nitrite of silver. If the infection goes further, nothing is so good as a 1 to 1000 bichlorid dressing kept constantly wet, which often aborts felons and is much better than the soap and sugar and other compounds of household practice. The ingrown nail can be treated by scraping a notch and clip to keep the flesh away from the nail. In severe cases it may require the removal of a portion of the nail and redundant skin. Warts will almost always disappear under daily painting with salicylic acid in collodion (5 per cent.) solution, excepting in the acuminate type. Other remedies which he uses are formalin solution, corrosive sublimate, and sulphur. Corns and bunions are sacrifices to civilization and the original conditions are relieved by the wearing of properly adjusted shoes and protecting the part with a simple cotton and collodion dressing. A useful and convenient remedy is tincture of iodin. Bathing in starch water is also advisable and should be practiced twice a day. He speaks in condemnation of the commoner practice of letting chiropodists work on the feet with a knife that is always unclean, helping only to promote disease and the practice of the operator. For the soft corn between the toes, ordinary greasing and putting a film of cotton over it usually will suffice. Salicylic acid plaster, 10 per cent., is useful for flat corns not especially painful. Most of the local applications are suitable, but the above seem to be the ones here specially recommended.

108.—See also title 82.

118. **Dissection Wounds.**—Bacon discusses the etiology of dissection and operation wounds, considering first the nature of the infecting microbe, and second the effect upon the virulence of the source from which it comes. The foremost place as an infecting agent must be assigned to the streptococcus pyogenes and the next to staphylococcus pyogenes aureus. It is probable that all the well-recognized pyogenic germs may, under favorable circumstances, give rise to more or less virulent septic processes when inoculated, but the author does not have at hand the reference to such cases. The anthrax bacillus is one that might be likely to produce a condition that would probably come under the title of his paper, also the bacillus of malignant edema. The tubercle bacillus is notoriously the cause of infection in the so-called "anatomical tubercle," and

while he has not found records of general tubercular infection from these causes, he thinks they are possibly not uncommon. Other germs mentioned are the diphtheria bacillus, the virus of syphilis, etc. The effect upon the virulence of the infecting germ of the source from which it is derived is discussed at some length and he points out that there is a comparative difference as regards the danger of the wound at a recent, with one received at a delayed, autopsy, which is due to the bodily warmth and the lack of development of defensive proteids in the dead subject. The chilling of the body and the beginning decomposition of the tissues and struggle for existence with saprophytic bacteria probably so affect the environment as to make it a less suitable culture-medium for the virulent pyogenic germs.

122. **Female Deterioration.**—The question whether the alleged deterioration of the human female as a factor in reproduction is a fact, is treated by Myers, who says that the toiling woman, with her interfering muscularity, may show equal deterioration with her overstrained sister of leisure. The intellectual woman need not fear maternity if she is able to let her intellect lie fallow long enough for her system to be stored with the necessary commissary supplies. But he thinks there is a constant tendency to mend matters in the natural processes of nature. The question of clothing, habits, education, etc., are also mentioned in their alleged effect upon deterioration.

FOREIGN.

British Medical Journal, December 22, 1900.

Quantitative Color-Tests. KARL GROSSMAN.—The defects of the Holmgren test are pointed out by Grossman, who shows how central scotoma may affect the quantity of color-perception according to the area of scotoma. Vision may be perfectly good at short distances, but, for this reason, fails at greater ones and a serious accident might follow. For the purpose of detecting such defects he has devised an instrument consisting of colored glasses used with transmitted light of varying power, thus putting the individual under conditions such as he meets in his occupation as seaman or railway employee. The rotating disc contains plates of clear and colored glass with an arrangement for varying apertures and size from 10 mm. to pin point and intensity from light to dark, thus offering an unlimited variety of lights, both colored and white. The apparatus may serve as the basis for the adoption of a standard for the quantitative measure of color-perception, as by it the smallest central scotoma can be detected.

Remarks on Chronic Enlargement of the Pancreas in Association With Or Producing Attacks Simulating Biliary Colic. GILBERT BARLING.—Three cases are reported by Barling, which had the common feature of enlargement of the head of the pancreas with attacks of colic and more or less complete blocking of the biliary duct. On account of the thickening of the head of the pancreas, it was impossible to say with certainty that pancreatic calculus did not exist, though none could be detected. In two of the cases there was an ill-founded diagnosis of gall-stones. In the other, two gall-stones existed and possibly, by inflicting damage on the common duct in their passage, directly induced the pancreatic inflammation. It is impossible, at present, he thinks, to make a positive diagnosis between certain affections of the biliary apparatus and chronic inflammation of the pancreas. If operation is required, however, it is fortunate that the same steps have to be taken in either condition. If the situation calls for operative interference with pancreatic enlargement of this kind, two methods of treatment offer themselves: very prolonged drainage of the gall-bladder is the method usually employed after cholecystectomy, or anastomosis between the gall-bladder and duodenum. In the second case reported drainage was employed and seems to have acted beneficially on the pancreas. In the fourth case the gall-bladder was joined to the duodenum, with resulting cure of jaundice and other symptoms complained of, though there was still some enlargement of the pancreas. He thinks that these cases suggest a more hopeful explanation of the occurrence of thickening of the head of the pancreas with jaundice than has hitherto been held possible.

Some Points in the Treatment of Spinal Abscesses. A. H. TUBBY.—The following points of treatment in cases of spinal abscess are emphasized by Tubby: 1. Do not wait to open a spinal abscess until the skin is reddened and involved. 2. As far as possible open the abscess at certain "seats of election," the places of evacuation to be decided by the direction taken by the abscess and by the surgeon. 3. Wherever evacuation is decided on, let it be done as far as possible away from the groin, and in such a position that more than one opening can be made into the abscess cavity. 4. Carefully cleanse the cavity and rub the interior thoroughly with menthol or iodoform solution. 5. Avoid drains of all kinds. 6. Be careful to carry out perfect aseptic measures from first to last. He enlarges upon these respectively. As regards the "seat of election" he mentions a case where by waiting, the abscess enlarged in its femoral portion and outward from the abdomen, under treatment by prolonged rest. This multiple opening was employed, with recovery. The importance of making more than one opening of the abscess and sac away from the groin as a cardinal point, is emphasized in the treatment of these cases. Evacuation is likely to be more complete, pockets of pus not so likely to remain, and all parts of the cavity can be brought within reach of the sharp spoon, the irrigator and the cleansing sponge. Applications to the sac-wall are also rendered more easy, and the greater the number of incisions that can be made without risk, provided they are all sewn up after the operation, the better will be the result.

The Lancet, December 22, 1900.

Pulmonary Tuberculosis in Early Childhood. ARTHUR LATHAM.—Latham holds that the majority of cases of tuberculosis in infancy are more probably due to infection through the digestive tract by milk than to air infection, and he says in support of this view that the whole picture of pulmonary tuberculosis in children differs from that in adults. In children the process is usually acute, the seat of infection and the breaking down of tissue is comparatively seldom reached. We often find tuberculosis in the bronchial glands while the lungs are practically unaffected, which is hardly ever seen in adults. He, therefore, holds that the disease is communicated through the lymph-glands in infants, though in the adult aerial infection is undoubtedly most common. The clinical varieties of pulmonary tuberculosis in children are numerous. Until the child is 3½ years of age it is a common development from infection of the bronchial glands and spreads from these glands to the lungs rather than from the lungs to the glands. After the age of 4 years the lesion found becomes more and more comparable with those in adults. The conditions which he found up to the fourth year he classified as follows: 1. Tuberculosis of the bronchial glands, which may lead to no special symptoms, and the diagnosis of this condition is described, especially the cough, alteration in the voice, venous hum, pressure symptoms, etc. Similar enlargements from other causes are much less frequent than from tuberculosis and these points will enable us to differentiate. 2. Miliary tuberculosis is rare in children excepting in cases of general tuberculosis. The general symptoms always precede the localizing ones; the latter may be absent. The child gradually wastes and this is followed by general malaise, anemia and anorexia. In most of these, however, digestive disorder is not prominent. The progressive wasting with slight fever arouses suspicion and this becomes assured by definite localizing symptoms as the time progresses. The differences between marasmus, typhoid fever, congenital syphilis, etc., are described. 3. Tuberculous bronchopneumonia, which may be either acute or chronic. In the acute cases there may be nothing to justify the diagnosis of tuberculosis, but in many cases, toward the end, we have evidence of meningitis. In the more chronic form, we have the initial stage with general symptoms followed by development of pulmonary signs and symptoms. Hemoptysis is rare, as are also signs of associated pleurisy. The disease is rarely arrested, but generally proves fatal in from one to six months. Diagnosis from simple bronchopneumonia is always difficult. The insidious onset is one of the special symptoms. If the attack begins with acute symptoms in previously healthy children bronchopneumonia is nine times out of ten non-tubercu-

lous. The appearance of the child may help us, but Latham remarks on a copious crop of downy hair being frequently found on the back of children who become tuberculous. The family history and associated enlargement of the bronchial glands or tuberculous disease elsewhere is of importance, and if we can get the sputum, all difficulties may be solved. Children mostly swallow their sputum, and in children under 6 years of age, if expectoration is profuse, it is probably tuberculous. Sometimes a gentle emetic may aid us in obtaining a small mass of purulent matter which reveals definite evidences. After the fourth year, and still more after the sixth, the type conforms more to that of the adult, but there are some differences. There is not the same tendency to begin at the apices and extend downward nor to form fibrous tissue. Extensive excavation is less common: hemoptysis and laryngeal complications are rare; pneumothorax is rare and not infrequently meningitis ends the scene. The physical signs are of less importance in children than in adults; a cracked-pot sound may be of no importance whatever. The prognosis in any form of tuberculosis is grave. Tuberculosis of the bronchial glands with marked pressure is also serious and the same is true in tuberculous form of general bronchopneumonia. The cases where the processes start during acute stages of measles or whooping cough are unfavorable, but when the tubercle bacilli are grafted on to the ordinary bronchial pneumonia which follows these diseases, the chances are better. The prognosis should be guarded, as many patients who seem hopelessly ill, get well, and sometimes where the disease appears to be quiescent, they succumb to a trifling ailment. In the adult type occurring in children, the prognosis is more favorable and frequently when taken early these patients do remarkably well. The aim in the treatment is to prevent further infection. Other measures to be adopted must follow the general lines of treatment of the disease in the adult. Fresh air, sunlight, precautions against cold and fatigue, equal temperature, a small amount of stimulants sometimes, cod-liver oil and small doses of other ordinary drugs, such as quinin, creosote, etc., are also occasionally of value. The symptoms can be treated as they arise.

Observations on Compressed-Air Illness. FREDERICK R. WAINWRIGHT.—The writer reports his experience with caisson disease in the Waterloo tunnel works of London, where, considering the pressures employed and the length of shifts, there were remarkably few cases of illness. The men were carefully examined before allowing them to work, the average age being just over 30. During a period of over five months, only 47 cases of illness due to the work came under treatment, in 40 men out of the 120, two having three attacks each and three having two. These figures include only cases of sufficient severity to call for treatment. Most of the men were free users of alcohol. The symptoms are described: Pain in the ears, joints, epigastric pain, vomiting, headache, dizziness and paralysis in one case, with no fatalities. The most important points in the diagnosis are the time and manner of the onset. He would not admit a case to be due to compressed air where more than twelve hours had elapsed between the time of leaving work until the onset of symptoms. Rheumatism and osteoarthritis are not likely to be mistaken for joint pain of compressed-air illness. The absence of any rise of temperature in the latter, together with the sudden onset and the freedom from physical signs, serves to define it. He considers ventilation an important preventive agent, the amount of carbonic acid present being a prime factor in the etiology of the disease. Of the pathologic theories, he accepts that which attributes the condition to supersaturation of the blood with gases due to compression, and he thinks that carbonic-acid gas is observed in the greatest amount. He has never been able to discover any remote effects. In one man, 42 years of age, who had worked in compressed air for varying periods during several years, there was marked arteriosclerosis apart from any cardiac or renal disease which could be discovered. Whether this was due to the occupation or not he could not say. In the great majority of cases only one treatment is necessary, and that is recompression with slow locking-out or reduction of pressure. For this purpose a medical air-lock was erected and utilized. The amount of pressure needed for relief depends more on the severity of the case than on the original pressure which produced the symptom. Decompression must be slow. He would not reduce pressure quicker than at the rate of 1 pound in three minutes. In his experience this never failed to stop the pain, though there are exceptional cases where the latter returns. This, he thinks is due to the creation by the first attack of a *locus minoris resistentiæ* which renders the passage of air into the tissues easier than escape by way of the respiratory system. In these cases he uses morphin hypodermically in fairly large doses.

Presse Medicale (Paris), December 12 and 15.

Mechanism of Spinal Cocainization. TUFFIER AND HALLION.—Extensive research on dogs has demonstrated that the anesthetic action of subarachnoid injections of cocain is due exclusively to the cocain. This specific action affects the spinal roots, and is almost exclusively confined to them. This refers solely to the anesthetic action. Certain by-effects may possibly be due to the diffusion of minute amounts of the cocain to the nerve cells of the cerebrospinal axis.

Cultivation of the Microbe of Soft Chancre. BEZANÇON.—The writer announces that Ducrey's bacillus grows readily on gelosed blood.

December 15.

Localization of the Lepra Bacillus. E. JEANSELME.—The writer has returned from a special expedition in the Orient, undertaken for the purpose of studying leprosy. He is convinced that bacteriologic examination will prove of great assistance in dubious diagnoses of leprosy, but warns that the bacilli, after having invaded the entire organism, may disappear completely, merely leaving a sclerosis in their track. The chief localizations are the nasal and bucco-pharyngeal mucosa, but all the secretions and even the excretions may be virulent, except the urine, which does not contain bacilli. Prophylactic measures should therefore aim to sterilize the nose, mouth and skin, with occlusion of all ulcerations and compulsory disinfection of garments, linen and all vessels, etc., used. The child of a leprous woman should be taken away from her immediately after birth and never given to another woman to nurse.

Sodium Bicarbonate for Dressing Wounds. J. CASTERET.—In all cases in which the vitality of the tissues requires to be stimulated, the bicarbonate has proved the best of all dressings in Casteret's experience with 300 patients during the past two years. In case of moderate suppuration and superficial traumatism it is more effective associated with antiseptics. In severe suppuration or mortified tissues the bicarbonate should yield place to antiseptics, but when the process of repair commences it becomes useful again. The purulent focus is copiously irrigated with an antiseptic solution, after which the bicarbonate dressing is applied. This antiseptic irrigation is repeated each time the dressings are changed. The solution used is 20 to 60 gm. per 1000, and the dressings kept moist. An abscess heals in ten to fifteen days under this treatment and the effect is surprisingly satisfactory in superficial traumatisms, varicose ulcers and burns, lymphangitis and certain dermatoses in which the indication is merely for a stimulation of the vitality of the tissues.

Revue de Gynecologie (Paris), iv, 5.

Treatment of Metritis. POZZI.—Acute or chronic metritis of the cervix may occur independently of any lesion of the fundus, but it is rare. If it persists it is liable to compromise the nutrition of the entire genital apparatus. Medical treatment may be sufficient in the early stages, and should certainly be tried, but surgical intervention should be sought before the lesion has become propagated by the mucosa and lymphatics. The most prominent symptom is the persistent subinvolution of the uterus and dilatations in the venous system from the chronic congestion of the organ. The ovaries frequently become affected in turn, small cysts developing in the follicles, with hypertrophy and apoplexy of the corpus luteum and pain in the lumbar region. This condition resists all medical treatment and even amputation of the cervix has little effect on the ovaritis at this stage. Pozzi considers laceration of the cervix almost the rule even in normal ac-

couchements. Any lesion of the cervix acts like a thorn in the flesh, irritating the trophic nerves and entailing vasomotor disturbances. Removing the thorn by amputating the cervix puts an end to the congestion and pain. Since lesions of the cervix have such serious and far-reaching consequences, it is imperative to cure them in the early stages. The first indication is asepsis of the vagina with a dressing over the cervix to isolate it from the remainder of the region in case of gonorrheal infection, and collect the secretions. Antiseptic injections are also necessary, and if indicated, application of silver nitrate, iodin or creosotal to the ulcerated surface, or possibly yeast. The thermocautery and curette are inadequate and unreliable. Excision is the only treatment for an inveterate lesion of the cervix, followed by immediate occlusion of the wound by suturing the flaps over it. He prefers biconical amputation with complementary *évidement* or scooping out of the commissures. Sclerogenic lacerations especially indicate operation and the fibrous irradiations should all be followed and removed. By suturing the commissures afterward, the external to the internal mucosa, all tendency to stricture is obviated. This operation not only removes the cause, but acts indirectly on the involution of the fundus and on the ovulation. Backache and dysmenorrhea gradually subside. Another variety of metritis occurs in nulliparæ from narrowness of the orifice of the cervix interfering with the drainage. It requires stomatoplasty by *évidement* of the commissures with consecutive asepsis, antisepsis and exeresis as outlined above. In case of very mild infection and hyaline catarrh it is unnecessary to excise tissues only slightly altered.

Semaine Medicale (Paris), December 12.

Spinal Cocain Analgesia. T. TUFFIER.—An experience of thirteen months with this method of analgesia, which Tuffier has applied in 252 operations, has established that there are no symptoms of shock and that the patients return more rapidly to the physiologic condition than after general anesthesia. The analgesia is complete and sufficiently durable, while careful study of the patients during and after the operation shows that there is no injury to the medullary system, either immediate or remote, nor local operative complication. From the moral point of view he has always found the most complete indifference to the operation, especially in men and in private practice. As he has mentioned in his previous reports, one patient died during the day following an operation for eventration. The autopsy disclosed old and severe cardiac lesions, with congestion and edema of the lungs, rendering the fatal termination inevitable. This is the only death that has occurred in his experience. In 20 per cent. of his cases the analgesia proceeded without the slightest subjective or objective symptoms. In 40 per cent. nausea occurred, and he has remarked that this is most liable to happen in cases with slight tension of the cerebrospinal fluid. When the fluid escapes like an ejaculation there is a minimum of incidents, but when it merely trickles, the analgesia will be as complete, but is liable to be accompanied by some annoyances. Nausea is much more frequent after large doses, 25 to 30 mg. A general slight malaise is sometimes observed, commencing about five minutes after the injection and never lasting more than fifteen minutes. Vomiting occurs from five to fifteen minutes after injection in 20 per cent. It is more frequent in men than in women and much more frequent in urgency operations when the subject has not been prepared. Tuffier is hopeful that research will suggest a means to abolish the vomiting in these cases. The subject rarely vomits more than three or four times, but in three cases vomiting recurred a number of times, including one case in which eucain had been used. He now rejects all substitutes for cocain. The brain is not affected and the muscles are completely relaxed, as in chloroform anesthesia, although the power of movement is retained, but the movements are less precise than in the normal condition. The rhythm of the heart is not altered, but the pulsations sometimes become more frequent. In 30 patients the pulse was 80 at the close of the operation and it has been known to reach 120. The respiration continues physiologic, there is no hypersecretion nor congestion in the bronchi, but the inspirations are sometimes deeper. In 5 per cent. of his cases there was incontinence of gases or fecal matter. As the mucosa of the rectum becomes insensible the anus misses the reflex tonicity and is liable to relax under the influence of a violent effort, pressure on the rectum during the ablation of a retrouterine tumor for instance. The urethrovesical apparatus is not affected in the least. The patients are completely tranquil and in perfect condition during the day following the operation. The only incident is an exceptional vomiting, which may occur three or four times, about four hours after the intervention. During the afternoon or evening the most disagreeable and frequent incident, the headache, is liable to appear. Tuffier has observed it in 40 per cent. of his patients. It resembles migraine in character, but does not coincide with the vomiting, and in 90 per cent. was almost completely gone by the next morning. In 2 per cent. it was very severe and continued for two to four days, progressively subsiding. No remedy seems to control it, and he now merely applies a compress of cold water to the brow. In three patients a tardy cephalalgia appeared after two to five days of complete tranquillity, more annoying than strictly painful, gradually subsiding in the course of seven days. It is difficult to understand this cephalalgia, as the cocain disappears so rapidly from the cerebrospinal fluid that not a trace can be discovered an hour after the operation. There is no chemical irritation of the pia-arachnoid membrane; cytologic examination and tests of its permeability with iodin have demonstrated its integrity. The temperature rose in 45 per cent. to 37.8, 38 and 38.5, and exceptionally to 39 and 39.5 C. The curve in 50 patients was well defined and constant, commencing about four to six hours after the analgesia, attaining the maximum the eighth to tenth and returning to normal by the twelfth to fourteenth. It never persisted beyond the twentieth hour. The urine does not suggest in any respect the urine-formula of fever. The blood shows no alteration resembling the leucocytosis of fever. The elevation of temperature is probably due to the action of the cocain on the thermogenic centers. The subjective and other symptoms were never so severe as to cause any alarm. The age of his patients ranged from 10 to 79, but as a general thing he prefers not to use this method of analgesia on children and hysterics. Children bear the cocain very well, but are liable to become frightened. He believes that persons with heart affections or arteriosclerosis have nothing to fear from it, as he has cocainized a large number. For all extraperitoneal operations analgesia by the spinal route bears comparison with general anesthesia—the future will show whether it ought not to supplant the latter. In operations on the lung and pleura in the two lower-thirds of the thorax it is the method of election, as chloroform and ether have serious disadvantages in these conditions. In regard to intraperitoneal operations, he would not recommend the method unless the surgeon is thoroughly familiar with abdominal surgery. Everything is all right as long as no incidents happen—and this is the rule—but if vomiting or nausea occurs the operator must wait for it to subside, and thus be hindered. In simple interventions, such as vaginal hysterectomy, ablation of the appendix or herniotomy, a little nausea is of no importance, but it may prove serious in operations on the liver, stomach or intestine, or in tedious interventions on the annexes or uterus.

Berliner Klinische Wochenschrift, December 3 and 10.

Treatment of Fractures of the Jaw. WARNEKROS.—For severe fractures of the jaw Warnekros has devised a splint which holds the parts in the correct position in the simplest manner, and can be removed for daily disinfection. It is merely a rubber plate made to fit over the jaw, allowing the teeth to protrude, such as dentists apply to correct the position of a tooth on the other jaw. It is small, light, aseptic, does not interfere with chewing or talking, and can be removed every day for disinfection of the plate and region after the third day. In one case the fracture was in the ascending branch of the lower jaw. A broad loop of stout gold wire projecting from the end of the rubber plate-cap supported the fractured portion to counteract the action of the external pterygoid muscle on the other side. In another case the

upper jaw was fractured in three places and the lower jaw in one. The splints were taken out and disinfected every day and the fractures healed with no deformity.

December 10.

Cure of Hernia of the Lung. O. VULPIUS.—Hernia of the lung developed consecutive to an unhealed fracture of the right third rib on a man of 42. He was able to reduce the hernia at first, but the frequent relapses caused irritation, catarrhal conditions and a cough. By the end of a year the hernia had become the size of two fists and operative intervention was imperative. Vulpius planned to slit the second and fourth ribs and fasten the outer half to the stump of the third rib, leaving the bone-flap still attached to the rib at its root. He accomplished this with the second rib, fastening the flap in a convex position, but the adhesions were too extensive for the operation to be completed on the fourth rib. The results were extremely satisfactory, even with this partial intervention.

Centralblatt f. Bakteriologie (Jena), November 30.

Diphtheria in the Horse. L. CORBETT.—The genuine diphtheria bacillus was found in the secretions of a sick pony, the only source for the infection of a little girl that could be discovered. When diphtheria antitoxin is found in the serum of horses, therefore, it evidently has the same significance as when found in man.

The Filaria in the Mosquito. B. GRASSI.—The fact that the filaria sanguinis is transferred to man exclusively by the mosquito seems to be established by the results of Grassi's research, which has determined that the larvæ of the filaria immitis enter the Malpighian bodies and there complete their development. In ten days they pass into the abdominal cavity and up to the head, accumulating in the prolongation of the cavity in the labium. From the labium they pass into the body of the animal stung. The filaria nocturna develops in the thoracic muscles. Both were found in several varieties of the anopheles and the immitis also in the culex penicillaris and pipiens.

Deutsche Med. Wochenschrift, (Leipsic), December 6 and 13.

Athyreosis in Children. H. QUINCKE.—Two cases are described in detail to sustain Quincke's assertions that we are still far from knowing all the variations of the clinical picture induced by defective and disturbed functioning of the thyroid gland. He thinks this condition should be classed with uremia and diabetes as an autointoxication, possibly multiple. In puzzling cases of tardy development, mental or physical, the possibility of an affection of the thyroid gland should not be overlooked, even when the typical symptoms of cretinism and myxedema are absent. These rudimentary and abortive cases are not only the most interesting, but they are the most amenable to thyroid treatment. In one of the cases described the growth was normal, although the other symptoms indicated sporadic cretinism, and the autopsy showed that the thyroid gland, which had been the size of a bean during the first year of life, had completely disappeared by the fourth year. In the second case the cretinism commenced to develop insidiously in an apparently normal child 15 months old. A peculiar feature of this case was that all the teeth but two dropped out. The symptoms suggested an organic cerebral lesion, but a few months of thyroid treatment cured the condition completely. He suggests the term "athyreosis subacuta" for these rudimentary cases.

December 13.

Testing for Knee-Jerk. WALBAUM.—In testing dubious cases it is possible to detect even the slightest reflex action by placing the hand on the patient's knee, the fingers on the ligamentum patellæ inferius, while the thumb and tip of the little finger rest on the upper edge of the patella, the latter thus enclosed between the fingers and the palm. If the hand is then struck lightly with the other fist the fingers feel the ligament spring up if the knee-jerk is still present.

Finsen's Radiotherapy. S. BANG.—The ultraviolet rays are not absorbed in Finsen's radiotherapy, on the contrary they are exceptionally numerous and effective. He has succeeded in killing cultures of bacteria in one second, and Bang announces that with an ordinary, unconcentrated arc light it is possible to kill the prodigiosus in one minute or less, with a current of 34 amperes and 50 volts, at a distance of 38 cm.

Mitteilungen a. d. Grenzgeb. (Jena), vii, Nos. 2 and 3.

Anatomy of Hypertrophied Prostate. S. CIECHANOVSKI.—Twenty-six pages of this extensive article are devoted to the bibliography of the subject, including many works by Slavonian writers. The author concludes that the hypertrophy is usually due to some inflammatory process which may have caused no symptoms at the time, and in the largest majority of cases, if not all, is of gonorrheal origin. A convincing argument in favor of this assumption would be the discovery that gonorrhea is restricted to man and dogs, as the hypertrophy of the prostate seems to be limited to them.

Influence of Artificially Induced Hyperemia on the Brain. A. BIER.—Constricting the neck with a rubber band hooked tight induces hyperemia of the brain, and Bier has established that it is not a dangerous procedure. He wore the band himself for five nights and, except for headache the first day, experienced no ill effects beyond the sleeplessness caused by the unusual sensation of the band. It was also tried on a number of patients in hopeless stages of tubercular meningitis in the attempt to supply the artificial congestion which Bier has found beneficial in other forms of tubercular affections. The effect of the constriction was also studied on a few patients with a defect in the skull, allowing the pulsation to be watched. He has established that abrupt application and removal of the band produces remarkable variations in the intracranial circulation. The next step was to apply these data to the treatment of epilepsy, and he reports ten cases thus treated. He found that the constriction was borne remarkably well by epileptics. When the band was applied so tight as to have caused throbbing and headache in Bier and others, the epileptics did not seem to experience anything of the kind and merely complained of the interference with swallowing. In six the seizures were diminished in number and intensity, including one patient who had had one or more every day for a year, and had no recurrence for six days after wearing the band for four. Several patients stated that the band arrested the distressing sensation of pressure and vertigo in the head. Three other patients were unaffected and in another the seizures seemed to last a little longer. In no case was a seizure ever induced by the constriction. It has proved effectual in warding off nervous headaches in another patient during the past year, applied at the premonitory symptoms. It also demonstrated an unmistakably beneficial influence on one of three cases of severe chorea thus treated. He observes that possibly the benefits attained by craniectomy in epilepsy are due merely to the hyperemia induced by the operation, as in cases of tubercular peritonitis. Lumbar puncture may also induce hyperemia in the brain as the blood rushes into the vacuum left by the removal of the cerebrospinal fluid.

Operative Treatment of Pericarditis. REICHARD.—The prognosis depends upon the etiology, Reichard concludes from study of thirty-three cases. The favorable termination in two exceptionally severe cases of purulent traumatic pericarditis speaks emphatically in favor of operative intervention in such circumstances. The majority also recover in other cases of primary affection and pericarditis consecutive to pleuritis and empyema, but after influenza, pneumonia and severe osteomyelitis it is nearly always fatal.

Total Necrosis of the Testicle from Mumps. A. STOLZ.—A very slight attack of mumps in a young man of 18 was followed by painful swelling of the left testicle, terminating in total, isolated necrosis.

Muenchener Med. Wochenschrift, December 11.

Relations Between Rhodan in Saliva and Iodin Intoxication. O. MUCK.—The writer has been making a study of the results of injury of the innervation of the salivary glands from chronic otitis of the middle ear. In the course of this research he has discovered that persons with an unusual amount of rhodan in the saliva are exceptionally liable to acute iodism in consequence of ingestion of even moderate amounts

of potassium iodid. Almost invariably symptoms of iodism appeared, varying from iodin acne to general nausea, while patients with a transient or permanent lack of rhodan in the saliva bore the potassium iodid without disturbance.

Chloral and Hemorrhages. A. MODEL.—The writer suffered for years from threatening hemorrhages from stomach, intestines, lungs and nose, which were finally traced to the moderate use of chloral for insomnia, and have ceased since the drug has been completely abandoned. The case is not pure, as latent atheromatosis exists and father and brother also manifest a slight hemorrhagic diathesis.

Wiener Klinische Wochenschrift, December 13.

Schleich's Local Anesthesia. F. V. FRIEDLAENDER.—This communication from the late Professor Albert's clinic summarizes the indications for this method of anesthesia as deduced from long experience: all operations on the skin, even protracted plastic operations, and all operations for which general narcosis is contraindicated. It is relatively indicated also in the so-called typical operations on the extremities if the intervention can be completed without toxic doses of cocain, and also for operations on the intestines when they can be performed without pulling, when there is no inflammation of the peritoneum and when palpation of the abdominal cavity can be dispensed with.

Dietetic Treatment of Hyperacidity. E. V. SOHLERN.—In the writer's long experience at Kissingen he has found that the majority of persons with hyperacidity not only tolerate certain carbohydrates, but that the latter are important factors in the cure. They must be easily digestible, non-stimulating to the secretions, soft like porridge and not too concentrated. Potato, for example, can be eaten by nearly every hyperacid person without disturbance if mashed, put through a sieve and then stewed with milk.

Gazzetta Degli Ospedali (Milan), December 9.

The Blood in Animals After Ablation of Thymus. A. COSENTINO.—A marked and progressive hyperleucocytosis was noted in rabbits and dogs after removal of the thymus and, parallel with it, an increasing bactericidal power of the serum, reducing the number of colonies from 155 and 552, for instance, to zero in forty-eight hours.

The Blood of Subjects With Carcinoma. DARIO MARAGLIANO.—Careful tests and experiments with the blood of thirty-three persons with carcinoma of the uterus, mammæ, stomach or other organs failed to reveal any blastomycetes or parasites such as have been described by Bra, Chevalier and others, although the conditions of the tests were scrupulously identical.

Intraspinal Resection of the Posterior Roots for the Cure of Rebellious Sciatica. D. GIORDANO.—A man of 26 with recurring sciatica of such severity that work was impossible, and the patient could not use his limb, was temporarily cured by stretching the nerve. When the neuralgia recurred Giordano yielded to the patient's appeals for relief and resected the posterior roots of the nerve, after exposing the eleventh and twelfth dorsal and first lumbar vertebræ. The dura was sutured with catgut and the flap replaced, leaving a small drain. All sensibility in the member was abolished and the patient could use his limb at once as he had not been able to use it for months. The second day acute pain was felt along the internal saphenous nerve, which proved rebellious to treatment and was finally cured by resecting this nerve below the tuberosity of the tibia, eight days after the primary operation. During the months that have elapsed since there have been no traces of pain. No trophic disturbances have been noted and the member is gradually recovering the sense of contact and pain on external irritation.

St. Petersburg Med. Wochenschrift, December 8.

Spontaneous Evacuation of Extrauterine Pregnancy. A. KUPFFER.—In the case described a woman of 53 evacuated per anum the bones of a fetus from an extrauterine pregnancy ten years before. The bones accumulated twice in the rectum, causing intense pain. Eleven cases are on record of a similar spontaneous irruption of remains of the extrauterine fetus into the intestines.

Change of Address.

C. J. Aldrich, 744, to 612 Prospect St., Cleveland, Ohio.
J. S. Blackburn, 41 Michigan Ave., to 1141 Hudson Ave., Detroit.
S. A. Bonnaffon, Williamsport, to 3439 Walnut St., Philadelphia, Pa.
J. T. Bunting, Harrisburg, to 114 S. 5th St., Reading, Pa.
F. W. Bates, Ft. Worth, Tex., to Hot Springs, Ark.
O. B. H. Bowser, Richmond, Va., to 2226 11th St., N. W., Washington, D. C.
F. F. Bryan, Georgetown, Ky., to Newberry Hotel, Chicago.
J. H. Coughlin, 303, to 307 E. Broadway, New York City.
H. M. Farney, Kansas City, Mo., to Mound City, Kan.
D. F. Grasse, Dickey, N. D., to Garrison, Iowa.
C. E. Hillis, 66 N. 2nd St., to 108 N. 3rd St., Memphis, Tenn.
C. P. Hough, Salt Lake City, Utah, to 224 Miller St., Jefferson City, Mo.
M. J. Levitt, 253 E. 105th St., to 1757 Madison Ave., New York City.
Lydia H. LaBaume, Rockford, to Batavia, Ill.
T. B. Morrissey, Chicago, to 126 N. Avon St., Rockford, Ill.
J. J. Minot, Mattapan, Mass., in care Mrs. Doulton, Box 1606 Santa Barbara, Cal.
A. D. Van Dyke, Baltimore, Md., to Marysville, Pa.
E. H. Moore, New York City, to Whitehouse Station, N. J.
F. H. Martin, Milwaukee, to Edgerton, Wis.
B. W. Macfarland, Bordentown, to Trenton, N. J.
G. Maxwell, Haldane, Ill., to Watonga, O. T.
H. J. Prentiss, 852 W. End Ave., to 239 W. 103rd St., New York City.
J. G. Pope, Rockwood, to Coleman, Tex.
M. Pritchard, Sierra Valley, to Sierraville, Cal.
Rev. J. A. Rudolph, 214 E. Randall St., to 209 E. Fort Ave., Baltimore, Md.
H. Rees, Preston, Minn., to Walcott, N. D.
M. W. Richardson, 10 Exeter St., to Equitable Bldg., Boston, Mass.
A. B. Richardson, Massillon, Ohio, to Government Hospital for Insane, Washington, D. C.
F. P. Shelby, Shelby, to Deeson, Miss.
S. C. Sims, 56 N. 3rd St., to 50 N. 4th St., Memphis, Tenn.
W. F. Seymour, Reedsburg, Wis., to 458 W. Adams St., Chicago.
F. L. Wilcox, Albert Lea, to Walker, Minn.
B. J. Wadey, Belleville, to 218 W. Madison St., Belvidere, Wis.
J. P. Welch, Aultman, Ariz., in care Dr. R. J. Rowland, Troupe, Texas.

Queries and Minor Notes.

CALL OF COURTESY.

SANDY, UTAH, Dec. 28, 1900.

To the Editor:—Should a new physician, just locating, call first upon brother practitioners, or is it the other way? DR. C. E. B.

ANS.—See reply to B. C. K., page 71, THE JOURNAL, of last week.

COST OF A COURSE IN EDINBURGH.

PORT TAMPA CITY, FLA., Dec. 18, 1900.

To the Editor:—Will you please inform me what would be the approximate expenses of a trip to Europe—with taking a course of lectures. I desire to go to Edinburgh, and if you can put me in communication with the University I would be glad. Yours very truly, J. M. G.

ANS.—The fare across the Atlantic can be made comparatively low on some lines, the American Line from Philadelphia to Liverpool for example, which gives a comfortable passage for $38 over, in the winter, and $31 returning at same season of year. The additional expense of railroad fare to Edinburgh and return to Liverpool would be $10 or less. About $5 to $10 per week will pay for comfortable board and lodging, and the fees for lectures are from $5 to $20 per class or course. If the passage over or back is in the summer season the rates are higher, perhaps $10 more. A letter addressed to the Dean of the Faculty of Medicine, University of Edinburgh, would obtain the further details needed.

MEDICAL PRACTICE ACTS.

PHOENIX CITY, ALA., Dec. 28, 1900.

To the Editor:—What are the regulations governing the practice of medicine in the State of Florida? W. L. M.

ANS.—A diploma and examination are required. The examining boards are separate for each judicial district of the state.

RICHMOND, IND., Dec. 29, 1900.

To the Editor:—Will you please inform me through THE JOURNAL what the laws are in Missouri, Arkansas and Texas for the practice of medicine, and oblige. J. B. L.

ANS.—Arkansas requires an examination before the county board of examiners. The license given is good as long as residence in that county continues. The fee is $6. In Missouri a diploma properly verified is required. In Texas an examination by special examining boards in the different judicial districts is provided for, but the law, however, is very lax, and a diploma is said to be practically all that is required; one diploma is as good as another, according to a decision of the Supreme Court. It is likely there will soon be some further legislation rendering conditions more strict.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 20 to 26, 1900, inclusive:

Frederick S. Dewey, captain and asst.-surgeon, 38th Vol. Infantry, honorably discharged from the service of the United States, to take effect February 20, 1901.

Gerry S. Driver, acting asst.-surgeon, from Washington, D. C., to Chicago, Ill., for temporary duty as examiner of recruits.

William R. S. George, acting asst.-surgeon, from Washington, D. C., to Governor's Island, N. Y., for assignment to duty at San Juan, P. R.

Thomas W. Jackson, acting asst.-surgeon, from temporary duty at the U. S. Military Academy at West Point, N. Y., to San Francisco, Cal., for duty with troops going to Manila and subsequent assignment in the Division of the Philippines.

William C. LeCompte, acting asst.-surgeon, from San Juan, P. R., to Washington, D. C., to report to the Surgeon-General for instructions.

Joseph C. Reifsnyder, acting asst.-surgeon, relieved from further duty in the Division of the Philippines and assigned to duty at the U. S. Military Academy at West Point, N. Y.

Henry A. Webber, lieutenant and asst.-surgeon, U. S. A., leave of absence from the Department of Eastern Cuba extended.

Navy Changes.

Changes in the Medical Corps of the Navy for week ending Dec. 29, 1900:

Asst.-Surgeon R. E. Ledbetter, detached from the *Monongahela* and ordered to the *Constellation*.

Asst.-Surgeon C. R. Burr, orders of Dec. 19 revoked, and to resume duties on the *Monongahela*.

Medical Director G. P. Bradley, commissioned medical director from May 31, 1900.

Medical Director P. Fitzsimons, commissioned medical director from Nov. 19, 1900.

Surgeon G. H. Barber, commissioned surgeon from June 7, 1900.

Asst.-Surgeons S. S. Rodman and J. M. Brister, appointed from Dec. 14, 1900.

DIED.

Medical Inspector W. H. Jones, retired, died at Bethlehem, Pa., Dec. 13, 1900.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended Dec. 27, 1900:

Surgeon W. P. McIntosh, to proceed to Columbus, Georgia, for special temporary duty.

Asst.-Surgeon C. E. Decker, granted leave of absence for 14 days on account of sickness.

Asst.-Surgeon L. P. H. Bahrenburg, relieved from duty at the Immigration Depot, New York City, and directed to proceed to Manila, P. I., and report to the chief quarantine officer for duty.

Acting Asst.-Surgeon Francis Duffy, granted leave of absence for six days from December 29.

Acting Asst.-Surgeon W. J. Linley, granted leave of absence for thirty days.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 28, 1900:

SMALLPOX—UNITED STATES.

Florida: Jacksonville, Dec. 2, 1 case.
Kansas: Wichita, Dec. 15-22, 10 cases.
Kentucky: Lexington, Dec. 22, 1 case.
Maryland: Baltimore, Dec. 22, 1 case.
Minnesota: Dec. 15-22, Minneapolis, 12 cases; Winona, 120 cases.
New Hampshire: Manchester, Dec. 15-22, 14 cases.
New Jersey: Jersey City, Dec. 16-23, 7 cases.
New York: New York, Dec. 15-22, 21 cases.
Ohio: Ashtabula, Dec. 15-22, 15 cases; Cleveland, Dec. 15-22, 25 cases; Portsmouth, Dec. 22, 1 case.
Tennessee: Memphis, Dec. 22, 1 case.
Texas: Houston, Dec. 15-22, 22 cases, 1 death.
Utah: Salt Lake City, Dec. 15-22, 31 cases.
Washington: Tacoma, Dec. 15, 1 case.
Wisconsin: Milwaukee, Dec. 22, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Sept. 30, 7 cases, 6 deaths.
Bohemia: Prague, Nov. 24-Dec. 1, 43 cases.
Brazil: Pernambuco, Oct. 1-15, 26 deaths; Rio de Janeiro, Oct. 1-31, 69 deaths.
Egypt: Alexandria, Nov. 27, 3 cases 1 death.
England: London, Dec. 1-8, 1 case.
France: Paris, Dec. 1-8, 14 deaths.
India: Calcutta, Nov. 17, 6 deaths.
Mexico: Mexico, Dec. 16, 1 case, 2 deaths: Progreso, Dec. 9-15, 3 cases.
Russia: Nov. 24-Dec. 1, 9 cases: Warsaw, 36 deaths.
Scotland: Glasgow, Dec. 7-14, 58 cases, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Oct. 1-31, 31 cases, 6 deaths.
Mexico: Vera Cruz, Dec. 14, 2 deaths.

CHOLERA.

India: Bombay, Nov. 13-20, 3 deaths; Calcutta, Nov. 10-17, 26 deaths; Madras, Nov. 9-16, 7 deaths.
Straits Settlements: Singapore, Nov. 10-13, 5 cases, 5 deaths.

PLAGUE.

Brazil: Petropolis, Dec. 10, 1 death; Rio de Janeiro, Oct. 1-31, 31 cases, 20 deaths.
India: Calcutta, Nov. 17, 2 deaths.
Japan: Osaka, Nov. 2-27, 8 cases, 8 deaths.
Madagascar: Tamatave, Nov. 11, 1 case.

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